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OCEANOGRAPHIC DATA COLLECTED FROM THE *HENRY LARSEN* IN THE BEAUFORT SEA, AUGUST-SEPTEMBER 1990

by

R.W. Macdonald, E.C. Carmack, F.A. McLaughlin, D. Sieberg,
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Institute of Ocean Sciences
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Contents

1 INTRODUCTION 1
1.1 Stations 1

2 METHODS 1
2.1 Guildline Conductivity-Temperature-Depth System 4
2.1.1 Data Processing 4
2.1.2 Data Validation 5
2.2 Water Chemistry 9
2.2.1 Field Sampling 9
2.2.2 Laboratory Methods 10

3 References 11

4 APPENDIX 1; GUILDLINE CTD DATA: TABLES AND PLOTS 13

5 APPENDIX 2; CHEMICAL DATA TABLES AND PLOTS 95

Abstract

R.W. Macdonald, E.C. Carmack, F. A. McLaughlin, D. Sieberg, M. C. O'Brien, D. Paton, R. Pearson, Yang Liangfeng, C. Gobeil, 1991, Oceanographic Data Collected from the *Henry Larsen* in the Beaufort Sea, August-September 1990. *Can. Data Rep. Hydrogr. Ocean Sci.:* **97**, 142 pp

A cruise to the Southern Beaufort Sea was carried out from the *Henry Larsen* in August - September, 1990. Here we report the bottle data for measurements of salinity, temperature, nutrients (silicate, phosphate and nitrate), dissolved oxygen and chlorophyll a determinations, and the CTD data.

Key words: Arctic, Canada Basin, chlorophyll a, coastal zone, nutrients, oceanography, oxygen, salinity, temperature.

Résumé

R.W. Macdonald, E.C. Carmack, F. A. McLaughlin, D. Sieberg, M. C. O'Brien, D. Paton, R. Pearson, Yang Liangfeng, C. Gobeil, 1991, Oceanographic Data Collected from the *Henry Larsen* in the Beaufort Sea, August - September 1990. *Can. Data Rep. Hydrogr. Ocean Sci.:* **97**, 142 pp

Une mission a été conduite dans la partie sud de la mer de Beaufort à bord du *Henry Larsen* en août- septembre 1990. Dans le présent document, nous rapportons les données de salinité, température, nutriments (silicate, phosphate et nitrate), oxygène dissous et chlorophylle *a* qui ont été obtenues suite à cette mission, ainsi que les données CTP.

Mots-clés: Artique, Bassin Canada, chlorophylle *a*, zone côtières, nutriments, océanographie, oxygène, salinité, température.

Acknowledgements

We are very much indebted to the officers and men of the Canadian Coast Guard Ship *Henry Larsen*. We especially note the assistance of Capt. S.A. Gomes in carrying out our work. It would be impossible to list all who gave us help, so we single out here a few who made our tasks easier: J. Leclair, B. Gilion, A. Doiron, G. Robinson, and A. Briand. T. Juhasz did most of the ground work to prepare the ship for our cruise. We appreciate the efforts of Captain D. Johns (Coast Guard Northern, Ottawa) for his continuing role in arranging collaboration between CCG and DFO. We thank the officers and men aboard the *Martha Black* and the *Nahidik* for tranporting our gear to and from the Beaufort Sea and out of Tuktoyaktuk. S. Thomson assisted with advice on style, and with final text-editing. This work, part of the NOGAP B.6 project, was jointly supported by Indian and Northern Affairs Canada, and Fisheries and Oceans Canada.

1 INTRODUCTION

Our program (IOS cruise 90-70, Canadian Coast Guard Ship *Henry Larsen*, Beaufort Sea, from August 28 to Sept. 18, 1990) had the following objectives:

- Collect chemical and CTD data at a deep station in the Canada Basin.
- Collect chemical and CTD data along a time-series transect across the center of the Mackenzie Shelf.
- Collect comparative chemical and CTD data on the shelf to the west of Banks Island.
- Intensively survey the waters of the Mackenzie Trough.
- Collect several large box cores to determine sediment composition and fluxes.
- Recover and redeploy several shallow-water moorings on the Mackenzie Shelf (in support of H. Melling's program).
- Survey (CTD) intensively the waters of the Mackenzie Canyon.

Data reported here include:

- Conductivity-Temperature-Depth (Guildline CTD systems) at a total of 75 stations distributed over the Mackenzie Shelf and the Banks Shelf (Figures 1 and 2), and at one deep station in the Canada Basin (3500m).
- Water samples at 26 stations (Mackenzie and Banks Shelves) and one deep station (3500 m); salinity, temperature, dissolved oxygen, nutrients, (reactive silicate, phosphate, nitrate plus nitrite), and chlorophyll a.

Additional water samples were collected for tritium. oxygen isotope composition ($\delta^{18}O$) and total CO_2. Data for these will be reported elsewhere.

1.1 Stations

Station locations, shown in Figures 1 and 2,
were determined using GPS (Global Positioning System) using C/A code without Selective Availability, and verified with the ship's transit Satellite Navigator. For GPS, the positions are expected to be accurate within about 50m; for the transit Satellite Navigator, the majority of positions are expected to be within 930 m of the true position, with a mean displacement of about 476 m [*Huggett and Mortimer*, 1971].

2 METHODS

Sampling was carried out from the forward port side of the ship. Two winch pads were welded to the deck in St. John's, and these were used to mount IOS winches transferred from the CCGS *Martha Black*. The ship's crane was used to suspend the block for either the CTD or hydrocasts. Both were done directly over the rail.

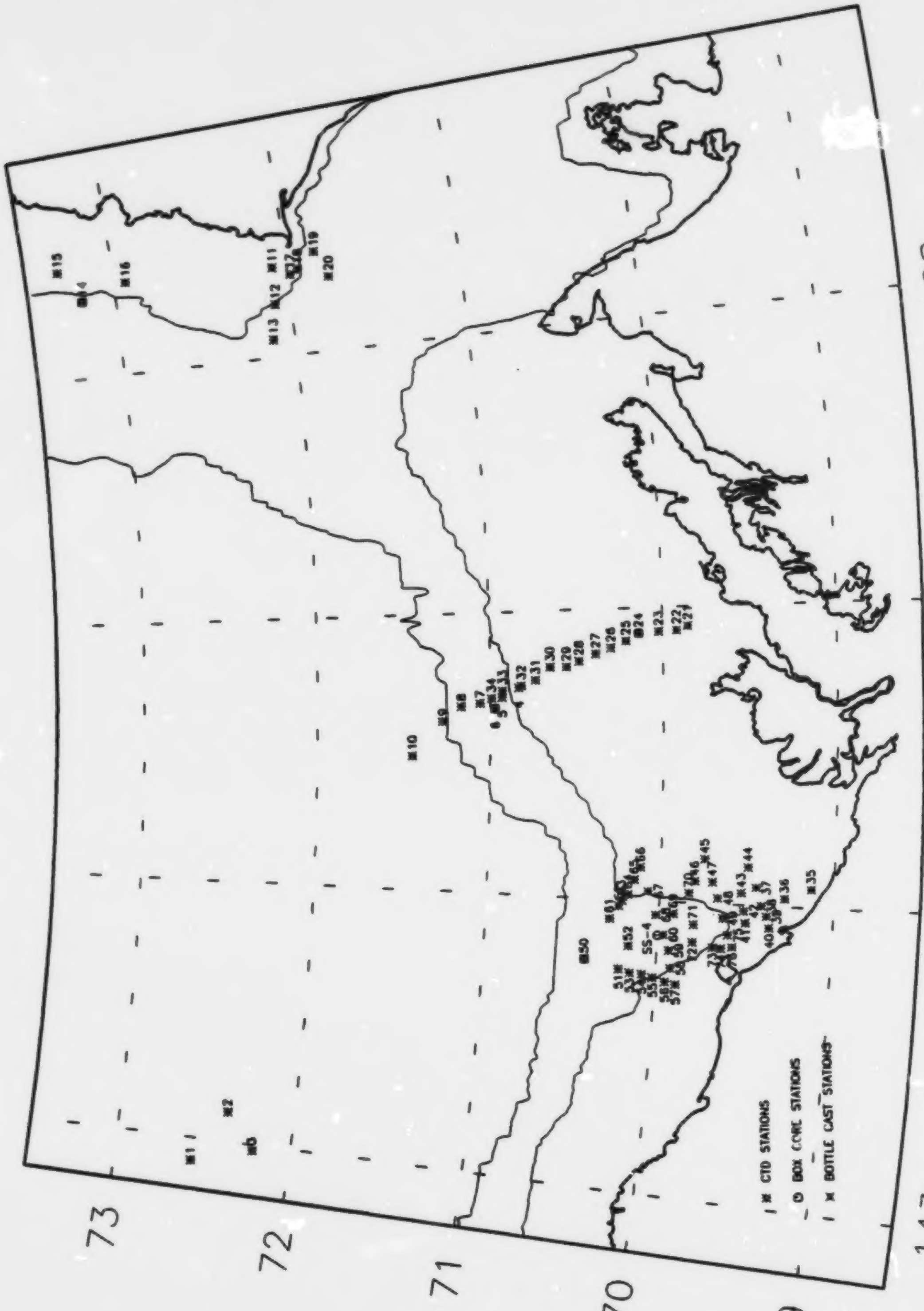


Figure 1: Station locations

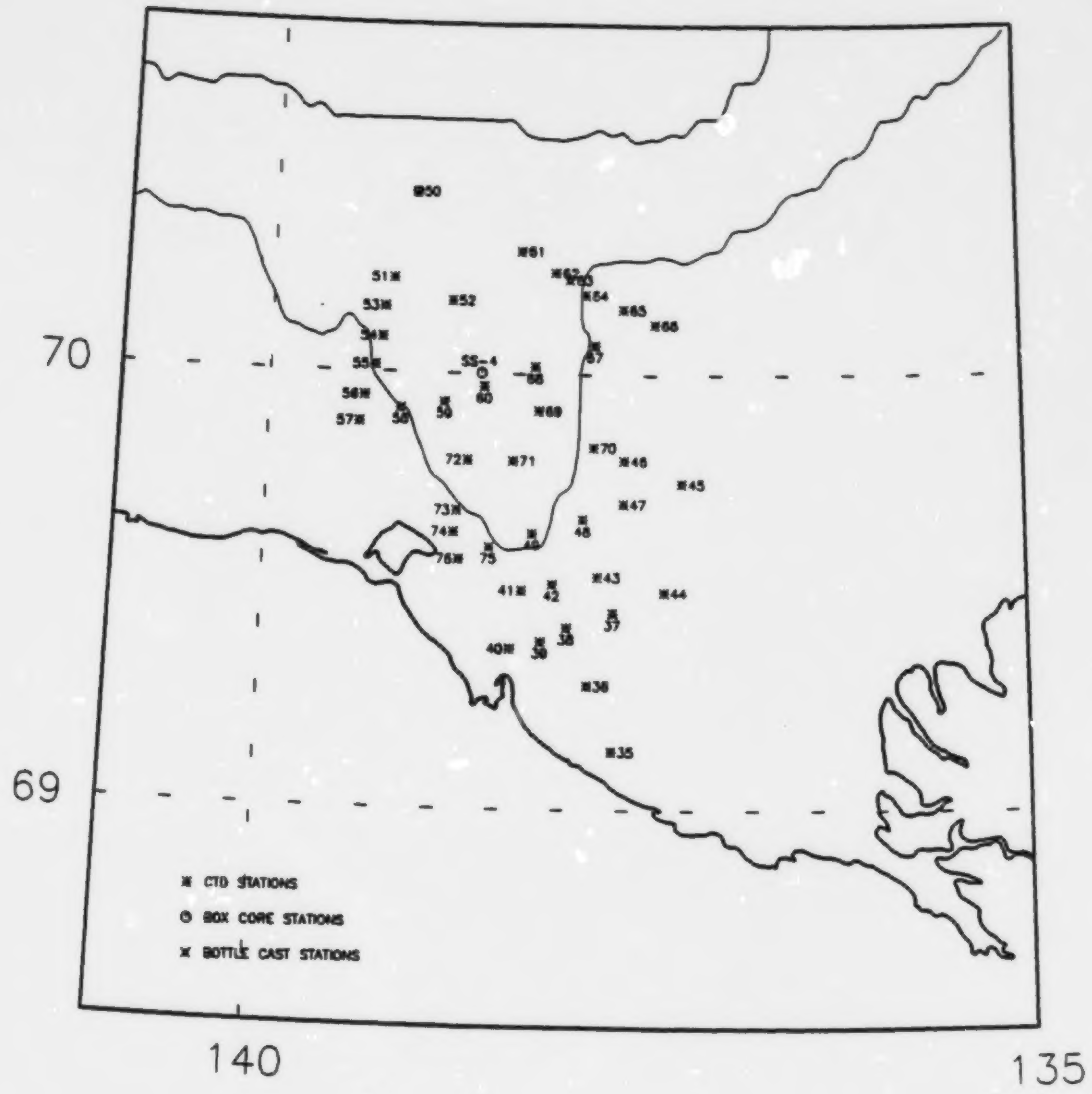


Figure 2: Station locations for the Mackenzie Canyon survey

2.1 Guildline Conductivity-Temperature-Depth System

Two Guildline model 8706 probes were used over the duration of the cruise, one equipped with a 1500 decibar pressure sensor and a second equipped with a 6000 decibar pressure sensor. Casts with both probes were taken at stations L001-L003, L006, L007, and L010. Stations L004, L005, and L008 were done with the 6000 decibar probe only. All remaining stations were done with the 1500 decibar probe exclusively. Data were logged via 2-conductor cable and slip rings to a deck unit and recorded onto an AST 286 desk-top computer. Data were collected at a rate of 25 samples per second.

2.1.1 Data Processing

The steps outlined below were performed in the processing of each CTD cast. Decimated data and derived quantities were used to produce the plots and tables listed in Appendix 1.

1. The raw values for pressure, temperature, and conductivity were converted to engineering units using calibration coefficients determined in pre-cruise laboratory calibrations. The pressure calibrations were adjusted, based on the data collected, to remove any zero-offset observed for each of the CTD probes. This was done by averaging the surface readings taken for each probe and subtracting the result from calibrated pressure values for each cast.

2. Each cast was processed to compensate for the differences in the time responses of the temperature sensor and the conductivity cell by calculating the time delay of the conductivity cell from the measured drop rate, and then subtracting from it the time constant of the temperature probe. The resultant time delay was converted to an index offset which was then used to shift the temperature readings relative to the conductivity readings. If the index offset was a non-integer, linear interpolation between existing temperature readings was used to calculate the new temperature readings.

3. Salinity was calculated from temperature and conductivity using the UNESCO algorithms [*Fofonoff and Millard*; 1983].

4. Erroneous values (spikes) were removed from the data using both automatic and manual techniques.

5. The pressure readings for each cast were smoothed using a 15 point (0.6m), un-weighted, running average. This was done to eliminate noise in the data (introduced by the pressure sensor) prior to the next steps being performed.

6. Readings taken during periods in which the CTD probe was falling at less than 0.3 m/s were removed from the data sets.

7. The pressure data for each cast was made monotonic by removing any data values from the casts in which the pressure was less than in the previous data value accepted.

8. The temperature and salinity data for each cast were filtered using a 21 point, inverse-distance weighted filter.

9. The pressure, temperature, and salinity data for each cast was decimated into one-metre bins using a simple averaging process.

10. An offset of 0.008 psu was applied to all salinity values taken with the CTD 1500 (as outlined in the Data Validation section).

11. Derived quantities were calculated from the pressure, temperature, and salinity data using the UNESCO algorithms given in *Fofonoff and Millard* [1983].

2.1.2 Data Validation

To validate the CTD readings taken during the cruise, comparisons were made between the data collected with the CTD 6000 and the CTD 1500. Because of steep property gradients and dynamic behaviour in the top 300m of the water column, we used only the readings taken from deeper than 300m to make the instrument intercomparisons (see Figure 3). Data for both CTDs at depths below 300m are available for stations L001 to L003 and L010. Table 1 lists the temperature and salinity differences for each of these stations. Significant temperature differences (0.008 C°) are observed for stations L003 and L010. Significant salinity differences ranging from 0.008 to 0.051 psu are observed for each of the stations. Figure 3 shows that the salinity difference for station L003 (and L001, L0002, not shown) varies with depth, but for station L010 the salinity difference remains a constant with depth.

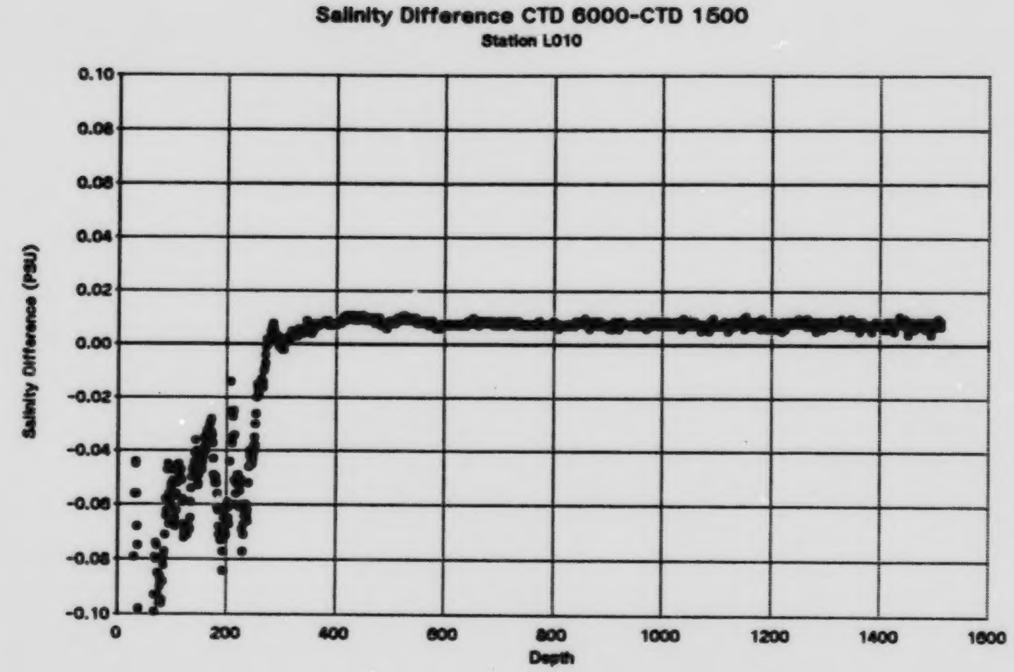
Table 1: Comparison of T and S between CTD 6000 and CTD 1500 below 300m

CTD 6000 - CTD 1500 (Below 300m)						
Stn	Casts	Temperature		Salinity		n
		mean	s	mean	s	
L001	3-1	-0.001	0.011	0.014	0.005	297
L001	3-2	0.005	0.005	0.033	0.009	1200
L002	4-5	0.003	0.007	0.034	0.008	1234
L003	7-6	0.006	0.004	0.051	0.011	1232
L010	17-18	0.010	0.005	0.008	0.001	1209

We attribute the depth-dependent difference between the two CTDs for stations L001 to L003 to a malfunction in the CTD 1500. This assumption is made because CTD 1500 was cleaned and adjusted after station L003 and this appears to have eliminated the problem as evidenced by station L010 (Figure 3). Further, a comparison of the data below 300m at stations L001-L003 and L010 with the data from a previous cruise in the area [*Macdonald et al.*, 1990] reveals that the readings taken with the CTD 6000 are consistent with those previous measurements.

The CTD readings were further validated by comparing the CTD data at stations L001, L011-L016, L021-L030, L032-L036, L038, L042, L049, L050, and L052 with the bottle samples taken at those stations. Bottle data were collected and analyzed for temperature and salinity as part of the chemical program (see subsequent sections and the chemical data tables). In the intercomparison, it should be noted that the CTD casts and bottle samples were not collected simultaneously, and that depth for the CTD was determined from the pressure sensor, while depth for the bottles was estimated by "wire out" and measured wire angles (checked with unprotected thermometers where possible). Therefore, differences in the intercomparison can be ascribed partly to environmental variance and partly to offset in depth between the two methods. Such an intercomparison will tend to overestimate the instrumental error.

Figures 4 and 5 show the distributions of temperature and salinity differences as a function of depth for both the CTD 1500 and CTD 6000. As with the CTD intercomparison, we used only samples taken below 300m for the intercomparison of CTD and bottle data.



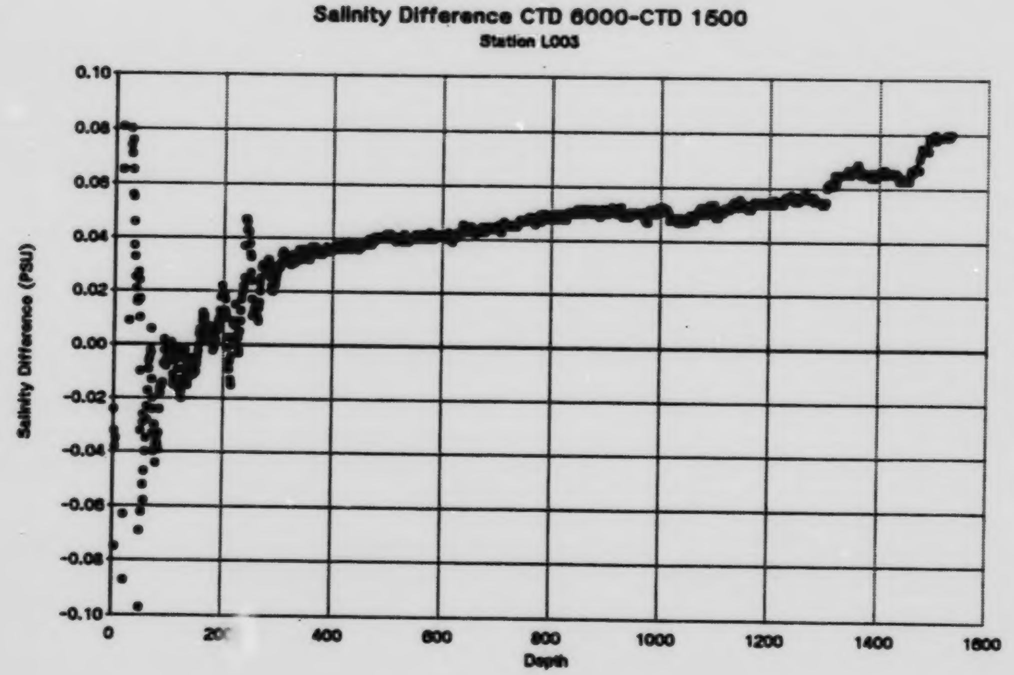


Figure 3: Intercomparison between CTD 6000 and CTD 1500

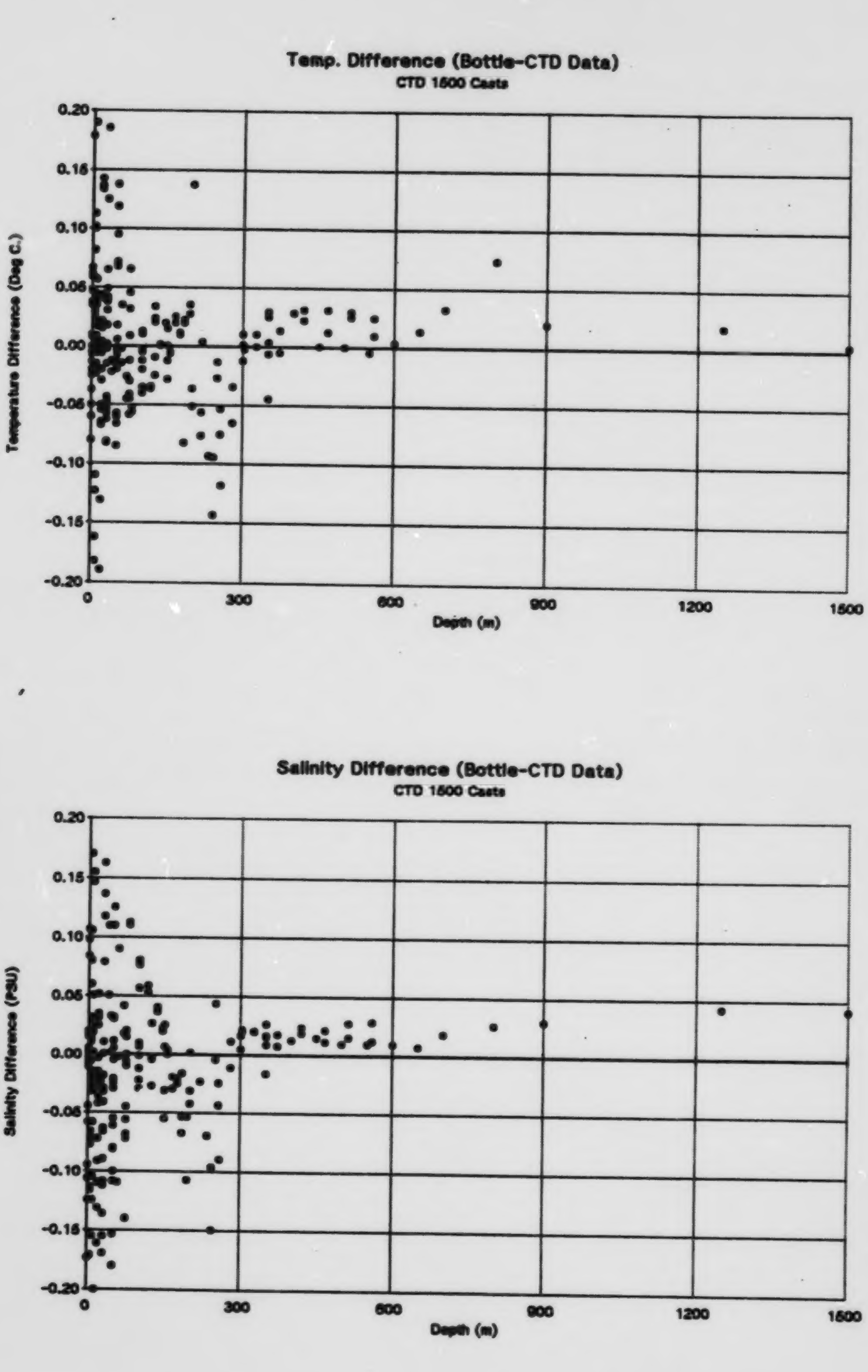
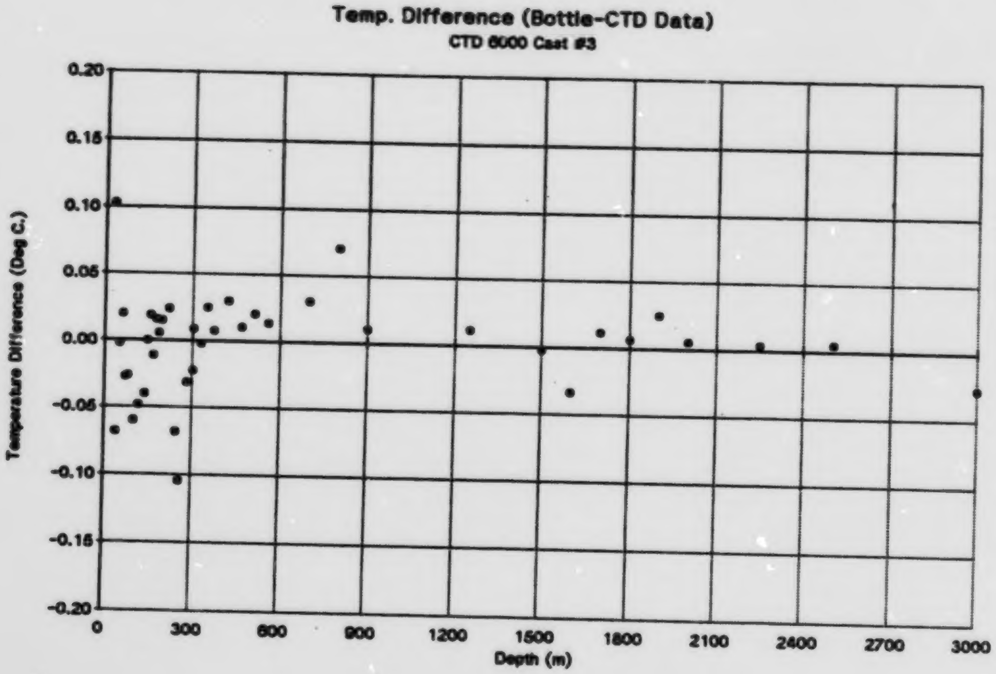


Figure 4: Bottle-CTD Data for CTD 1500 casts



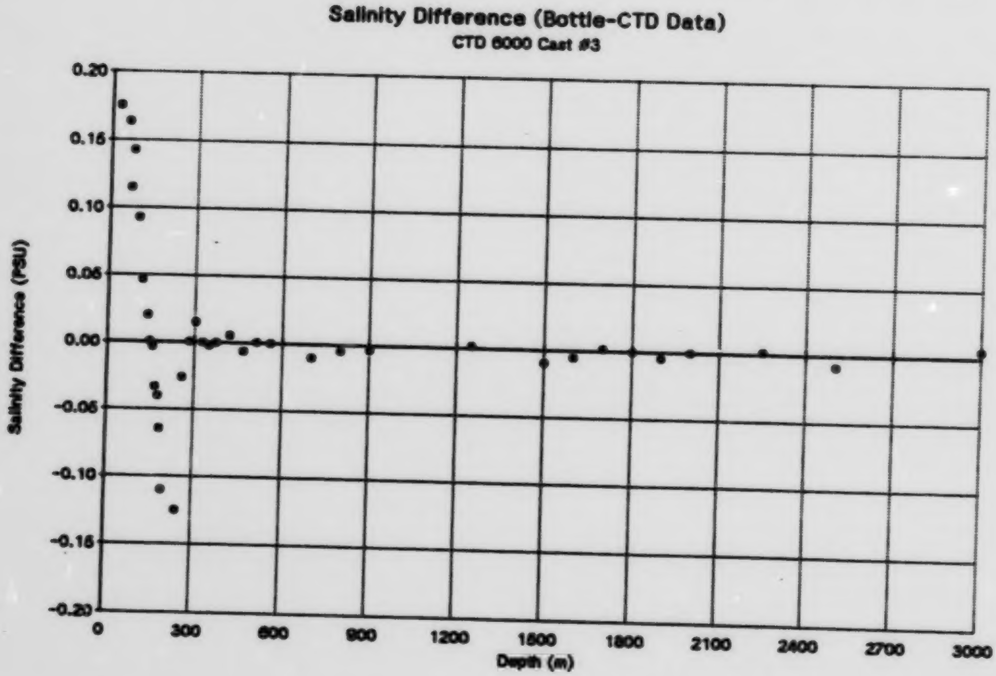


Figure 5: Bottle-CTD Data for CTD 6000 cast #3

To quantify the bottle – CTD intercomparison, the property differences $D = X_{bottle} - X_{ctd}$ were calculated for each point (S and T) below 300m (Table 2). The statistics show that there is no significant difference between the bottle data and the CTD 6000 data for either temperature or salinity, however, there is a measurable salinity difference of 0.022 ±0.009 psu for station L001 and 0.013 ±0.006 PSU between the CTD 1500 and the bottle data for stations L051 and L052. These figures

corroborate the comparisons between the CTD 6000 and the CTD 1500.

Table 2: Salinity differences (Bottle - CTD) for depths below 300m

	CTD 1500			CTD 6000
psu	All Casts	Casts 1,2	Casts 50,52	Cast 3
mean	0.0179	0.0219	0.0131	-0.0008
s	0.0106	0.0089	0.0060	0.0053
n	33	21	8	23

Table 3: Temperature differences (Bottle - CTD) for depths below 300m

	CTD 1500			CTD 6000
C°	All Casts	Casts 1,2	Casts 50,52	Cast 3
mean	0.0091	0.0140	0.0041	0.0051
s	0.0278	0.0312	0.0110	0.0315
n	34	22	10	24

As a result of these data comparisons, we do not report CTD 1500 salinity values for stations L001 to L003. An offset of 0.008 psu has been applied to all CTD 1500 salinity values (Appendix 1) for the remaining stations. In the cases where both CTD 6000 and CTD 1500 casts were taken at a station, the CTD 1500 data are not reported here.

2.2 Water Chemistry

2.2.1 Field Sampling

Water samples were collected with 10L Go-Flo bottles and 5L or 1.7L Niskin bottles equipped with reversing protected and unprotected thermometers. Subsampling from the bottles followed the normal oceanographic procedure of first withdrawing dissolved oxygen and tritium samples (using latex tubing), followed by salinity, oxygen isotope, and nutrient samples. Finally, the remaining water was transferred to a twice rinsed, 2L polybottle for chlorophyll a samples.

Table 4: Estimates of error: basis of calculation and error models are given in the text.

measurement	units	precision (s_p)	Standard Reference Material
Salinity	psu	0.0066	IAPSO Seawater
Temperature	°C	0.014	NBS Calibration
Silicate	mmol m^{-3}	0.10	Sagami SiO_2
Nitrate	mmol m^{-3}	0.07	Sagami KNO_3
Phosphate	mmol m^{-3}	0.01	Sagami KH_2PO_4
Dissolved Oxygen	mmol m^{-3}	0.76	Sagami KIO_3
Chl *a*	mg m^{-3}	0.04	No SRM available

2.2.2 Laboratory Methods

Errors for the various methods reported here are expressed as precision and accuracy as summarized in Table 2. Pooled variance, s_p, is calculated as

$$s_p = \sqrt{\frac{\nu_1 s_1^2 + \cdots + \nu_i s_i^2}{\nu_1 + \cdots + \nu_i}}$$

where $\nu_i = n_i - 1$ degrees of freedom, and the n_i and s_i refer to the number of replicates and their standard deviation for the individual components used in the pooled standard deviation calculation.

Salinity Salinity samples were drawn into 200 mL salinity bottles, after 3 rinses, from 1.7L or 5L Niskin bottles. The samples were then capped tightly until determination.

The salinities were analyzed on a Guildline Autosal (Model 8400A, SN 42.501) instrument at the Institute of Ocean Sciences: data are reported in practical salinity units (psu) [*Lewis and Perkin*, 1978]. During analyses the instrument was standardized against Standard Sea Water of Chlorinity 19.3705 ($K_{15} = 0.99984$). The Standard Sea Water was obtained from Standard Seawater Service, Institute of Oceanography, Wormley, Godalming, Surrey, England.

Standard deviation of repeated measurements on the same sub- sample was less than 0.0005 psu. Precision of the sampling/analysis was evaluated from independent duplicate samples drawn occasionally from the Niskin bottles; we found the pooled standard deviation, $s_p = 0.0066, \nu = 32$.

Temperature Temperature was measured with paired. oceanographic restricted- range thermometers (low temperature) manufactured by Richter and Weise (Berlin), Yoshino Factory (Tokyo) or Gohla (Kiel). These were read twice to the nearest 0.01 C°. Precision, based on agreement between pairs, was s_p=0.014 C° for all data ($\nu = 216$) and s_p=0.029 C° for readings from the top 10m of the water column ($\nu = 71$). Unprotected reversing thermometers were used to check depth as determined by the length of wire out.

Dissolved Oxygen Dissolved oxygen samples were 'pickled' immediately on deck and taken to the ship's laboratory for determination by the Micro- Winkler technique [*Carpenter*, 1965]. Analyses were carried out within 24 hours of collection. Calibration of the thio- sulphate solution was performed with each titration set (daily) by using Sagami primary standard KIO_3. Precision of the method was routinely monitored with blind replicate samples drawn at a frequency of about

20% from the Niskin or Go-Flo bottles. For the data reported here we obtained the following results on replicates: $s_p = 0.76$ mmol m^{-3}, $\nu = 38$ (2 replicate pairs were a difference of 6 mmol m^{-3} (0.13 mL/) were removed by Chauvenet's criterion).

Nutrients Samples for nutrient determination were collected into twice rinsed glass and polystyrene test tubes (2 glass and 2 polystyrene tubes per sample).

Nutrients (silicate, nitrate plus nitrite, and phosphate) were determined aboard ship. Nutrient determinations were performed using Technicon Autoanalyzer II components. Reactive silicate and nitrate plus nitrite were determined according to Technicon Industrial Methods No. 186-72 W and 158-71 W respectively, and soluble orthophosphate was determined using a modified Technicon method [*Brynjolfson*, 1973]. Sagami standards were used to calibrate secondary standards which were prepared daily in 30.5 g/L NaCl solutions.

Most of the nutrient samples were analyzed in duplicate, the average being reported. The precision of the determinations, based on these duplicates, was found to be: silicate, s_p= 0.10 mmol m^{-3}, $\nu = 225$; phosphate s_p= 0.01 mmol m^{-3}, $\nu = 233$; nitrate,s_p= 0.07 mmol m^{-3}, $\nu = 228$.

Chlorophyll *a* Chlorophyll *a* samples were taken only at the A-1 station. Samples were filtered immediately, taking care to restrict light. Water samples (1-3 L) were filtered through 24-mm diameter Whatman GF/C glass fiber filters. The inside of the filtration funnel was rinsed with about 10 mL filtered sea water and approximately 1 mL of 1% $MgCO_3$ solution was added to the samples just before filtration was complete. After filtration, the filters were folded in half, placed in filter paper folded into quarters, labelled, and stored frozen in a dark bottle containing silica-gel in a deep freezer. At IOS chlorophyll *a* was determined fluorometrically with a Turner Design fluorometer [*Strickland and Parsons*, 1972].

Blanks were estimated from deep samples (125 m and greater, where chlorophyll concentrations are low) to be ≤ 0.010 mg m^{-3}. Pooled standard deviation of replicates was estimated to be less than 0.04 mg m^{-3} (n=4).

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4 APPENDIX 1; GUILDLINE CTD DATA; TABLES AND PLOTS

Units and abbreviations used in the computer listings which are included in the following appendix are summarized below.

Measurement	Abbreviation	Units
PRESSURE	PRESS	decibars
DEPTH	DEPTH	m
TEMPERATURE	TEMP	°C
POTENTIAL TEMP	THETA	°C
SALINITY	SAL	pss-78
DENSITY†	SIGMA T	kg/m^3)
DYNAMIC HEIGHT ANOMALY	DYN HT	m
SPECIFIC VOLUME ANOMALY	SVAN	$10^{-8} m^3/kg$
BRUNT VAISALA FREQUENCY	POT EN	1/s
SOUND SPEED	SOUND SPEED	m/s

† The quantity reported for density is actually $\gamma(S,t,0)$ [UNESCO, 1987].

Station	Latitude	Longitude	CTD Casts		Bottle
			1500	6000	
L001	72° 33.7'N	143° 26.3'W	1,2	3	YES
L002	72° 23.2'N	142° 26.0'W	5	4	
L003	72° 13.2'N	143° 06.3'W	6	7	
L004	70° 50.1'N	134° 20.0'W		8,9	
L005	70° 56.0'N	134° 30.3'W		10	
L006	70° 58.5'N	134° 42.1'W	12	11	
L007	71° 03.9'N	134° 36.3'W	13	14	
L008	71° 10.1'N	143° 39.8'W		15	
L009	71° 16.6'N	134° 55.7'W	16		
L010	71° 27.2'N	135° 32.6'W	18	17	
L011	72° 05.1'N	126° 20.2'W	19		YES
L012	72° 05.7'N	127° 01.9'W	20		YES
L013	72° 07.6'N	127° 40.3'W	21		YES
L014	73° 11.6'N	126° 28.9'W	22		YES
L015	73° 18.8'N	125° 51.1'W	23		YES
L016	72° 56.0'N	126° 13.0'W	24		YES
L017	71° 59.2'N	126° 30.5'W	25		
L018	71° 56.5'N	126° 26.0'W	26		
L019	71° 50.1'N	126° 09.3'W	27		
L020	71° 46.1'N	126° 38.4'W	28		
L021	69° 51.4'N	133° 19.3'W	29		YES
L022	69° 55.3'N	133° 23.4'W	30		YES
L023	70° 01.4'N	133° 24.4'W	31		YES
L024	70° 08.4'N	133° 26.0'W	32		YES
L025	70° 12.8'N	133° 33.6'W	33		YES
L026	70° 18.0'N	133° 40.2'W	34		YES
L027	70° 23.3'N	133° 46.1'W	35		YES
L028	70° 29.2'N	133° 53.3'W	36		YES
L029	70° 33.6'N	133° 59.2'W	37		YES
L030	70° 39.3'N	133° 59.1'W	38		YES
L031	70° 44.3'N	134° 12.5'W	39		
L032	70° 49.2'N	134° 18.0'W	40		YES
L033	70° 55.7'N	134° 23.2'W	41		YES
L034	70° 59.6'N	134° 31.2'W	42		YES
L035	69° 08.0'N	137° 42.0'W	43		YES
L036	69° 17.1'N	137° 52.0'W	44		YES
L037	69° 27.1'N	137° 41.9'W	45		
L038	69° 25.0'N	138° 00.0'W	46		YES

Station	Latitude	Longitude	CTD Casts		Bottle
			1500	6000	
L039	69° 23.0'N	138° 10.2'W	47		
L040	69° 22.0'N	138° 22.1'W	48		
L041	69° 30.0'N	138° 17.9'W	49		
L042	69° 31.0'N	138° 05.9'W	50		YES
L043	69° 32.0'N	137° 48.2'W	51		
L044	69° 30.0'N	137° 21.7'W	52		
L045	69° 15.0'N	137° 14.9'W	53		
L046	69° 48.2'N	137° 37.8'W	54		
L047	69° 42.1'N	137° 38.0'W	55		
L048	69° 40.0'N	137° 54.1'W	56		
L049	69° 38.0'N	138° 14.1'W	57		YES
L050	70° 24.9'N	139° 03.8'W	58		YES
L051	70° 13.0'N	139° 12.1'W	59,60		
L052	70° 09.9'N	138° 47.8'W	61		YES
L053	70° 09.0'N	139° 15.3'W	62		
L054	70° 04.8'N	139° 15.8'W	63		
L055	70° 00.9'N	139° 18.4'W	64		
L056	69° 56.7'N	139° 22.3'W	65		
L057	69° 53.0'N	139° 24.0'W	66		
L058	69° 55.0'N	139° 07.8'W	67		
L059	69° 56.0'N	138° 50.0'W	68		
L060	69° 58.2'N	138° 34.1'W	69		
L061	70° 17.0'N	138° 20.2'W	70		
L062	70° 14.0'N	138° 06.2'W	71		
L063	70° 13.1'N	138° 00.7'W	72		
L064	70° 11.0'N	137° 54.2'W	73		
L065	70° 09.0'N	137° 38.8'W	74		
L066	70° 07.0'N	137° 25.9'W	75		
L067	70° 04.0'N	137° 50.0'W	76		
L068	70° 01.0'N	138° 13.9'W	77		
L069	69° 55.0'N	138° 12.1'W	78		
L070	69° 50.0'N	137° 50.2'W	79		
L071	69° 48.0'N	138° 22.0'W	80		
L072	69° 48.0'N	138° 40.5'W	81		
L073	69° 41.0'N	138° 44.2'W	82		
L074	69° 38.0'N	138° 45.2'W	83		
L075	69° 36.0'N	138° 31.0'W	84		
L076	69° 34.2'N	138° 42.9'W	85		

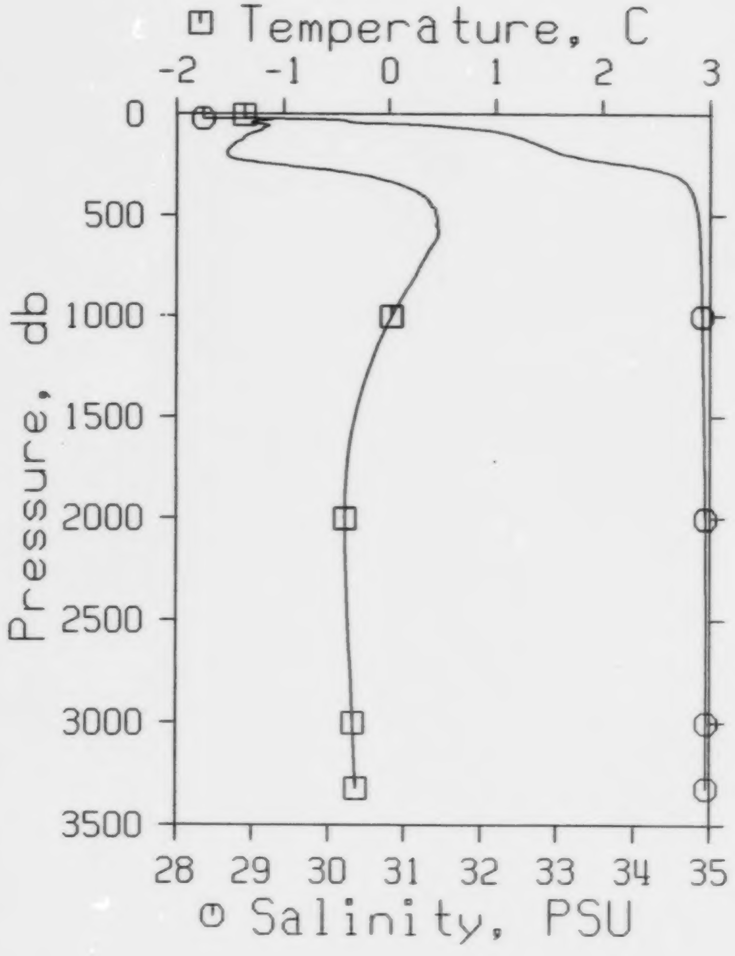
NØGAP DATA REPØRT

STATIØN : L001

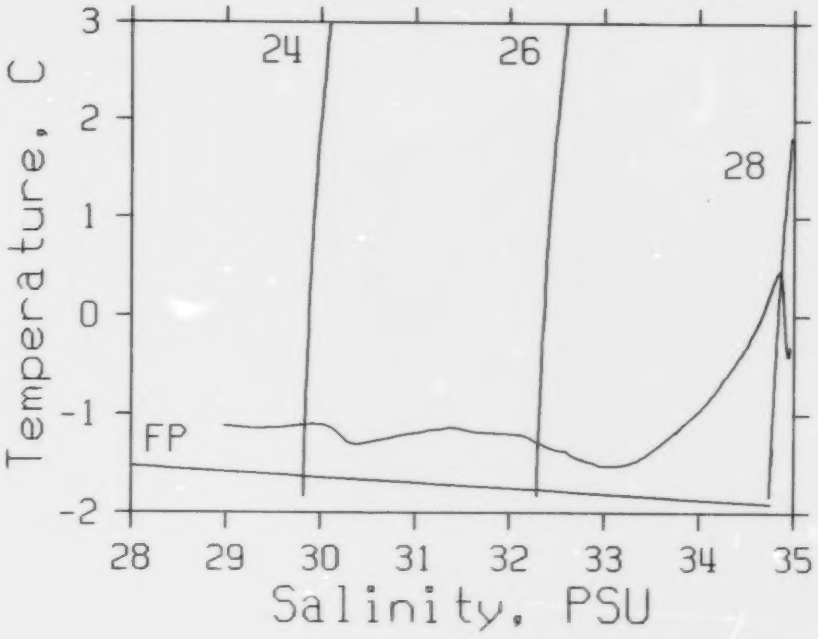
REFERENCE NØ.: 90-70-003

DATE/TIME : 05/09/90 23:00 UTC

PØSITIØN : 72-33.0N 143-29.0W



PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	-1.371	-1.371	25.184	20.23	753.2	.00	.00	1429
10	10	-1.362	-1.362	25.668	20.62	715.6	.73	.04	1430
20	20	-1.273	-1.273	27.954	22.48	538.1	1.38	.13	1434
30	30	-1.185	-1.185	30.174	24.27	366.5	1.80	.24	1438
50	49	-1.180	-1.181	31.098	25.02	295.1	2.49	.52	1439
75	74	-1.196	-1.198	31.960	25.72	228.6	3.14	.93	1441
100	99	-1.324	-1.326	32.379	26.07	196.0	3.66	1.39	1441
125	124	-1.376	-1.378	32.591	26.24	179.5	4.12	1.92	1441
150	148	-1.462	-1.465	32.761	26.38	166.2	4.55	2.52	1442
175	173	-1.515	-1.519	32.931	26.52	153.0	4.95	3.18	1442
200	198	-1.522	-1.527	33.124	26.67	138.1	5.31	3.87	1443
250	247	-1.014	-1.021	33.951	27.33	75.9	5.86	5.12	1447
300	297	-.270	-.280	34.530	27.77	34.6	6.12	5.83	1452
400	396	.308	.291	34.781	27.94	18.3	6.36	6.67	1457
500	494	.439	.417	34.842	27.98	14.3	6.52	7.42	1459
600	593	.456	.429	34.867	28.00	12.5	6.66	8.20	1461
800	790	.250	.214	34.889	28.03	9.6	6.90	9.84	1463
1000	987	.025	-.020	34.900	28.05	7.5	7.07	11.47	1466
1200	1184	-.144	-.199	34.911	28.07	5.8	7.21	12.93	1468
1500	1479	-.319	-.389	34.925	28.09	3.8	7.33	14.60	1472
2000	1970	-.417	-.517	34.946	28.11	1.7	7.38	15.47	1480
3000	2948	-.338	-.515	34.957	28.11	.8	7.29	13.08	1498
3320	3260	-.309	-.515	34.956	28.11	.9	7.26	12.04	1503



NØGAP DATA REPORT

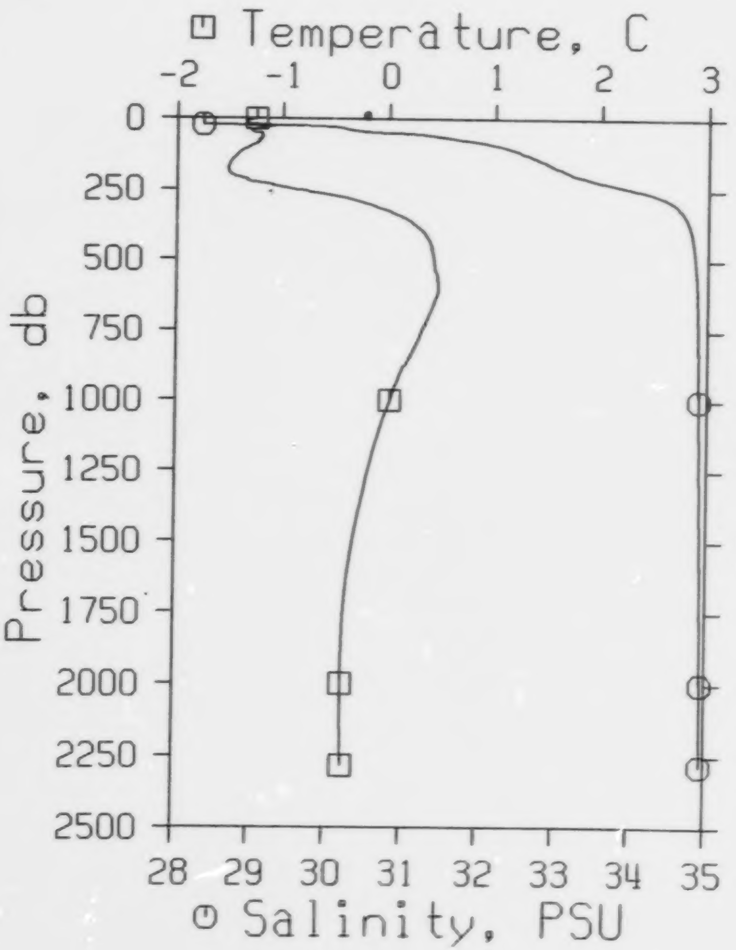
STATIØN : L002

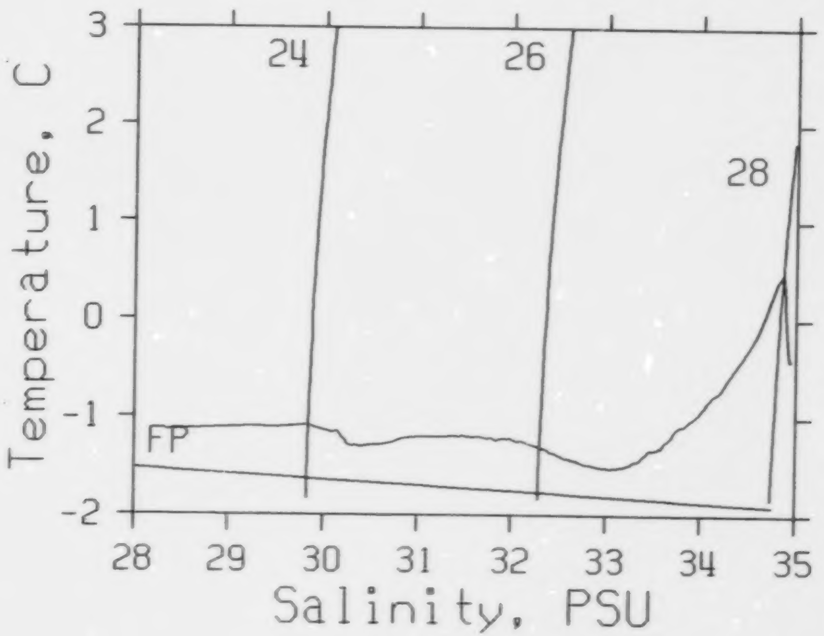
REFERENCE NO.: 90-70-004

DATE/TIME : 06/09/90 05:10 UTC

PØSITIØN : 72-23.2N 142-26.0W

PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	-1.246	-1.246	23.281	18.69	901.5	.00	.00	1428
10	10	-1.338	-1.338	24.241	19.47	826.7	.86	.04	1429
20	20	-1.223	-1.223	26.338	21.17	663.6	1.64	.16	1432
30	30	-1.147	-1.147	30.129	24.24	370.0	2.08	.27	1438
50	49	-1.202	-1.203	30.934	24.89	307.7	2.78	.55	1439
75	74	-1.228	-1.230	31.816	25.60	239.7	3.45	.97	1440
100	99	-1.313	-1.315	32.327	26.02	200.0	3.99	1.45	1441
125	124	-1.421	-1.424	32.590	26.24	179.5	4.46	1.99	1441
150	148	-1.483	-1.486	32.832	26.44	160.7	4.88	2.58	1442
175	173	-1.517	-1.521	33.039	26.60	144.7	5.26	3.21	1442
200	198	-1.474	-1.479	33.260	26.78	127.7	5.60	3.85	1443
250	247	-.869	-.876	34.059	27.41	68.2	6.08	4.95	1448
300	297	-.198	-.208	34.575	27.80	31.4	6.31	5.57	1453
400	396	.330	.313	34.788	27.94	17.8	6.54	6.38	1457
500	494	.430	.408	34.840	27.98	14.4	6.70	7.13	1459
600	593	.470	.443	34.868	28.00	12.4	6.84	7.91	1461
800	790	.261	.225	34.889	28.03	9.6	7.08	9.57	1463
1000	987	.020	-.025	34.900	28.05	7.5	7.25	11.18	1465
1200	1184	-.149	-.203	34.910	28.07	5.9	7.38	12.64	1468
1500	1479	-.317	-.387	34.925	28.09	3.8	7.51	14.32	1472
2000	1970	-.415	-.515	34.946	28.11	1.7	7.56	15.21	1480
2284	2248	-.404	-.524	34.952	28.11	1.2	7.55	14.89	1485





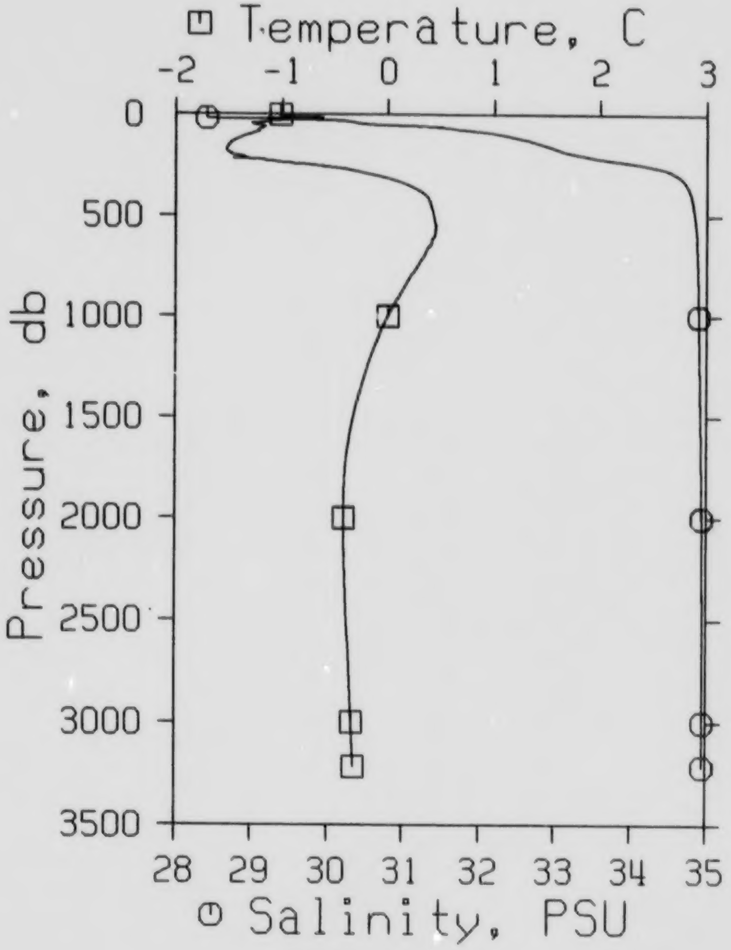
NØGAP DATA REPORT

STATIØN : L003

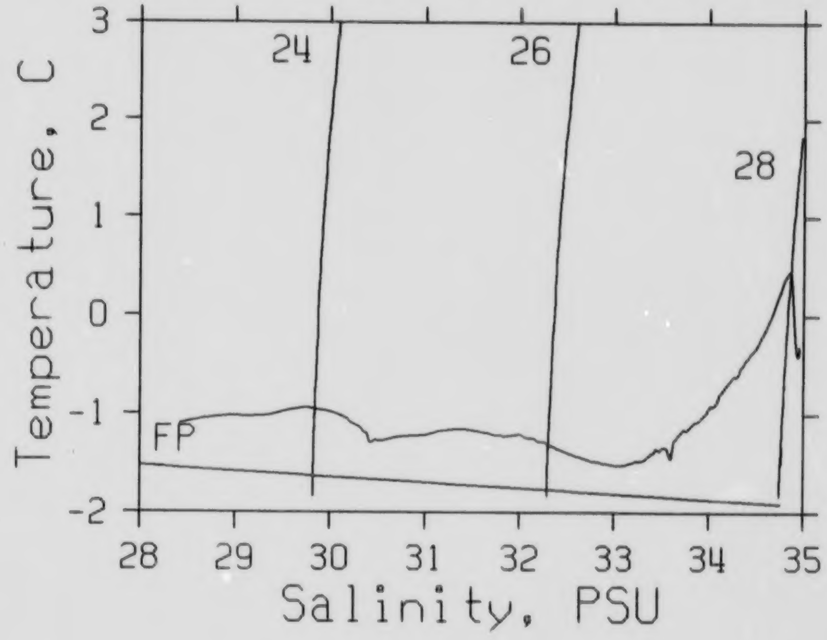
REFERENCE NØ.: 90-70-007

DATE/TIME : 06/09/90 16:10 UTC

PØSITIØN : 72-13.1N 143- .1W



PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	-1.015	-1.015	20.285	16.27	1135.6	.00	.00	1425
10	10	-1.010	-1.010	20.284	16.26	1135.7	1.14	.06	1425
20	20	-1.098	-1.099	28.418	22.85	502.4	2.00	.18	1435
30	30	-1.023	-1.023	30.131	24.24	370.1	2.43	.29	1438
50	49	-1.242	-1.243	30.673	24.68	327.8	3.12	.57	1438
75	74	-1.217	-1.219	31.799	25.59	241.0	3.80	1.00	1440
100	99	-1.315	-1.317	32.317	26.01	200.8	4.35	1.48	1441
125	124	-1.436	-1.439	32.642	26.28	175.5	4.81	2.02	1441
150	148	-1.494	-1.497	32.868	26.47	157.9	5.23	2.60	1442
175	173	-1.518	-1.522	33.070	26.63	142.3	5.60	3.21	1442
200	198	-1.433	-1.437	33.349	26.85	121.0	5.93	3.84	1443
250	247	-.679	-.687	34.212	27.53	57.2	6.38	4.84	1449
300	297	-.113	-.124	34.617	27.83	28.7	6.57	5.38	1453
400	396	.361	.344	34.797	27.95	17.3	6.79	6.14	1457
500	494	.431	.410	34.845	27.98	14.0	6.94	6.87	1459
600	593	.437	.410	34.869	28.00	12.2	7.08	7.63	1461
800	790	.215	.179	34.889	28.03	9.4	7.31	9.26	1463
1000	987	.001	-.044	34.901	28.05	7.3	7.48	10.83	1465
1200	1184	-.160	-.214	34.910	28.07	5.8	7.61	12.26	1468
1500	1479	-.326	-.395	34.926	28.09	3.8	7.73	13.89	1472
2000	1970	-.416	-.516	34.946	28.11	1.7	7.78	14.73	1480
3000	2948	-.337	-.514	34.956	28.11	.9	7.70	12.43	1498
3217	3160	-.318	-.514	34.957	28.11	.9	7.67	11.76	1501



NØGAP DATA REPØRT

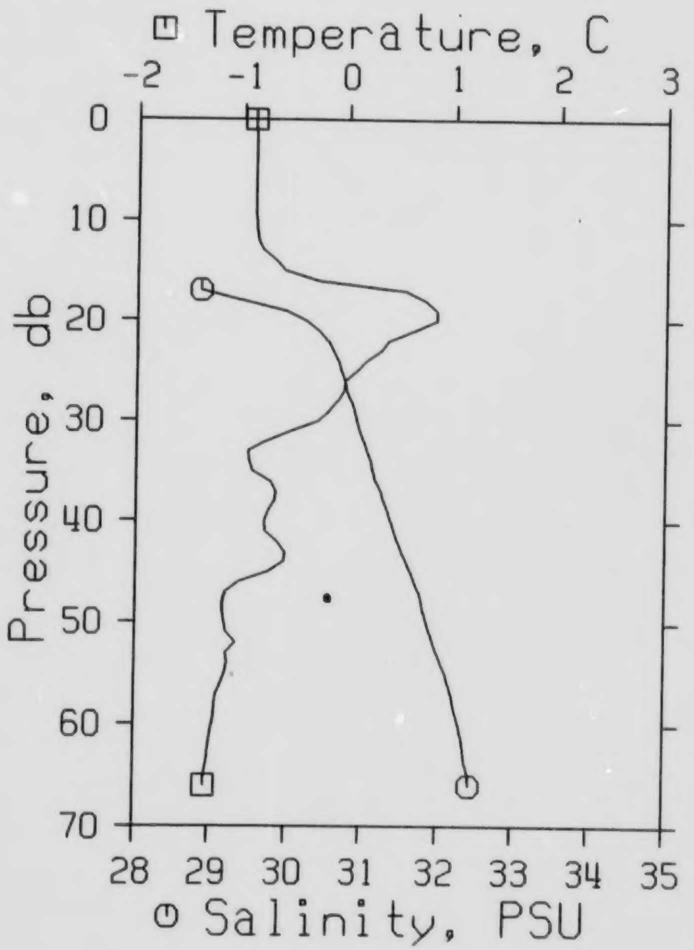
STATIØN : L004

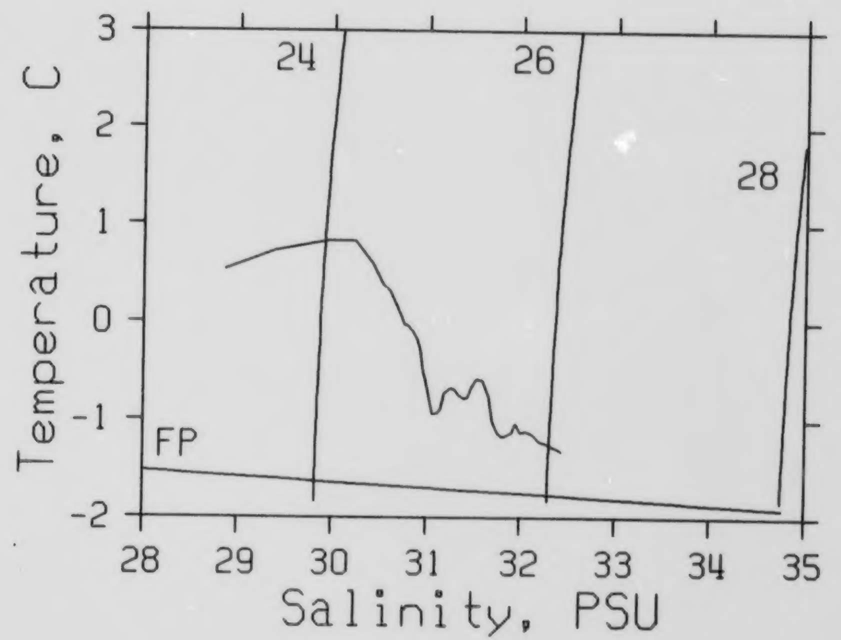
REFERENCE NØ.: 90-70-009

DATE/TIME : 09/09/90 04:32 UTC

PØSITIØN : 70-50.1 134-20.0

PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	-.891	-.891	27.027	21.72	610.5	.00	.00	1434
10	10	-.875	-.875	27.036	21.73	609.8	.61	.03	1435
20	20	.829	.828	30.238	24.25	368.4	1.14	.11	1447
30	30	-.281	-.281	30.929	24.86	310.8	1.48	.19	1443
50	49	-1.149	-1.150	31.863	25.64	236.2	2.02	.41	1440
66	65	-1.323	-1.324	32.439	26.11	191.4	2.36	.61	1441





NOGAP DATA REPORT

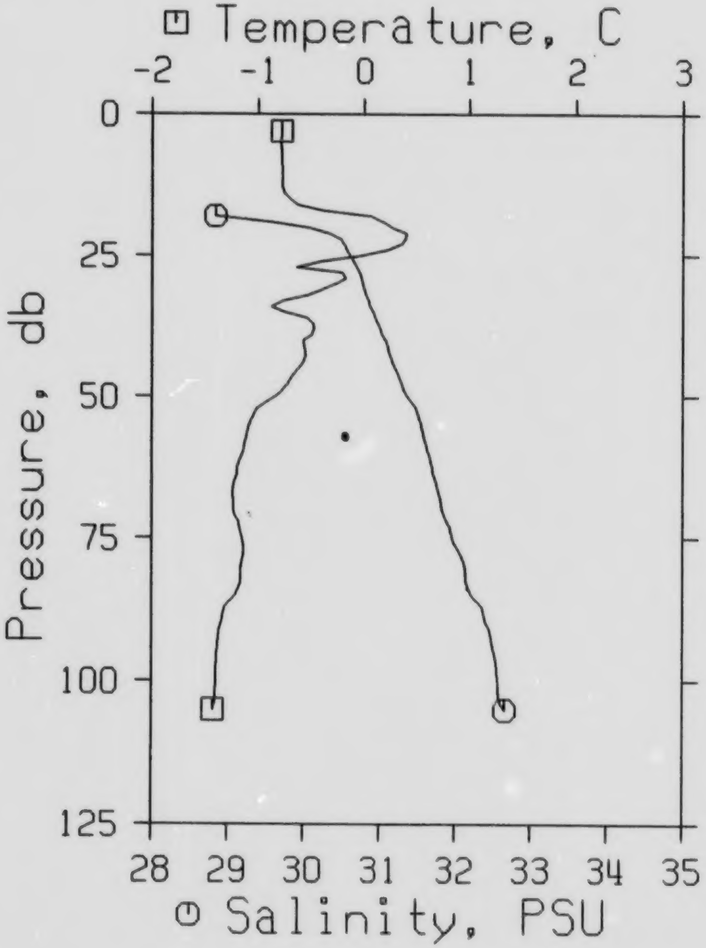
STATION : L005

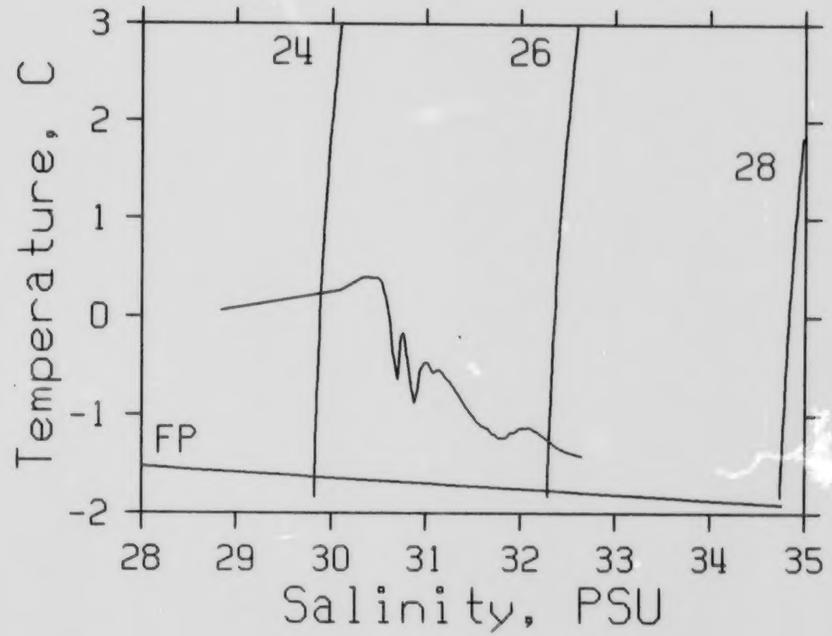
REFERENCE NO.: 90-70-010

DATE/TIME : 09/09/90 05:21 UTC

POSITION : 70-56.0N 134-30.3W

PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	-.778	-.778	26.731	21.48	633.6	.00	.00	1434
10	10	-.770	-.770	26.734	21.48	633.3	.63	.03	1435
20	20	.265	.264	30.091	24.16	377.2	1.21	.12	1444
30	30	-.274	-.275	30.785	24.74	321.9	1.54	.20	1443
50	49	-.833	-.834	31.368	25.23	275.2	2.14	.44	1441
75	74	-1.145	-1.146	31.973	25.73	227.7	2.76	.84	1441
100	99	-1.398	-1.400	32.575	26.23	180.7	3.26	1.28	1441
105	104	-1.423	-1.425	32.662	26.30	173.9	3.35	1.37	1441





NOGAP DATA REPORT

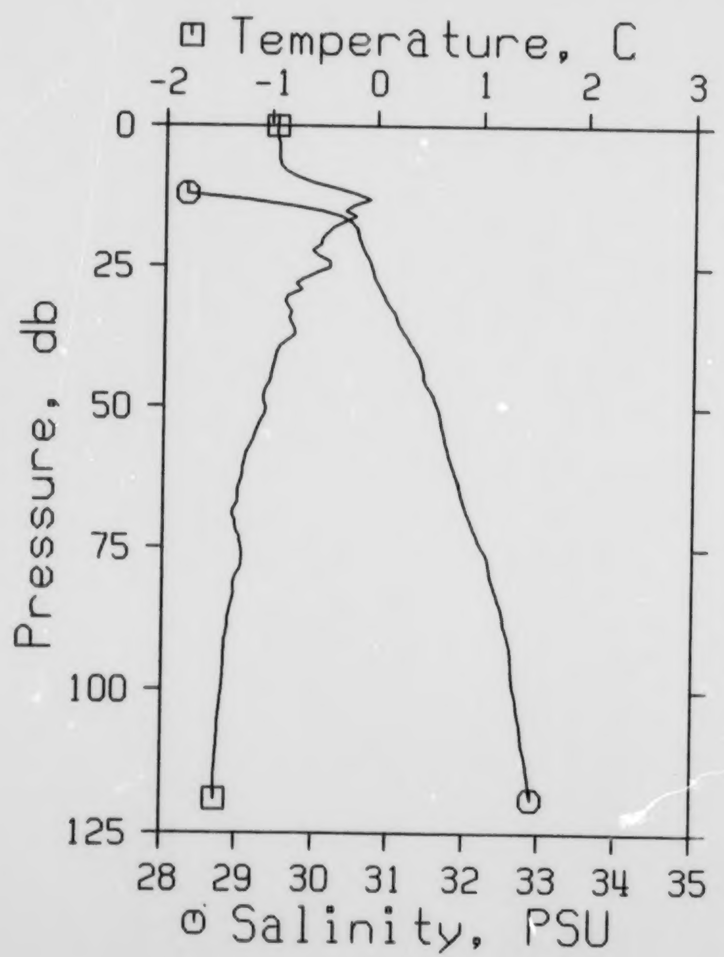
STATION : L006

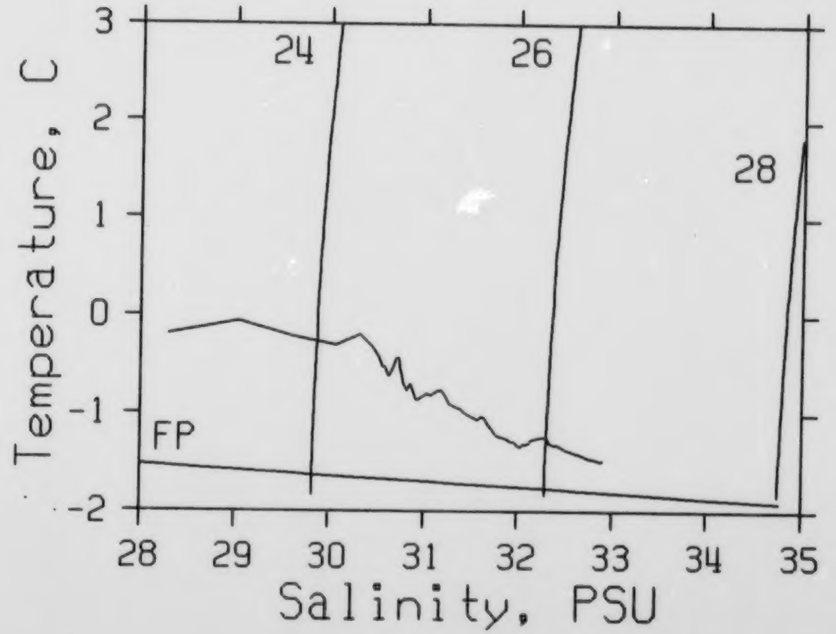
REFERENCE NO.: 90-70-011

DATE/TIME : 09/09/90 14:45 UTC

POSITION : 70-58.5N 134-42.1W

PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	-.945	-.945	26.670	21.43	638.0	.00	.00	1434
10	10	-.619	-.620	27.089	21.76	606.1	.63	.03	1436
20	20	-.522	-.523	30.568	24.57	337.8	1.05	.09	1441
30	30	-.832	-.833	30.904	24.85	311.0	1.38	.18	1440
50	49	-1.035	-1.036	31.618	25.44	255.4	1.94	.40	1441
75	74	-1.252	-1.254	32.218	25.93	208.6	2.52	.77	1441
100	99	-1.424	-1.426	32.661	26.30	174.0	2.99	1.19	1441
125	124	-1.504	-1.506	32.985	26.56	148.8	3.39	1.64	1441





NØGAP DATA REPØRT

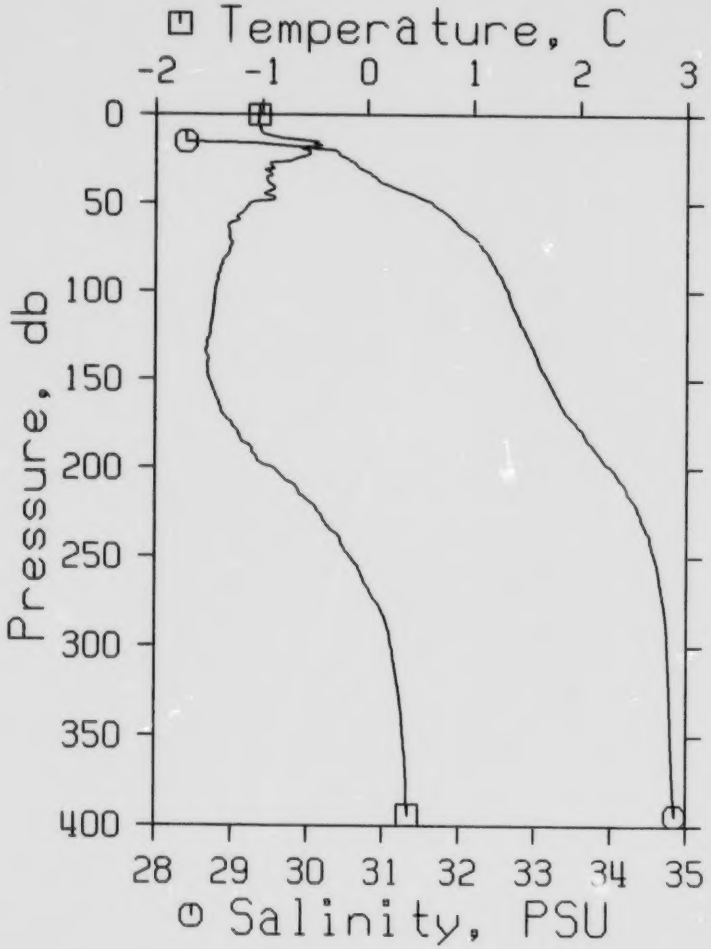
STATIØN : L007

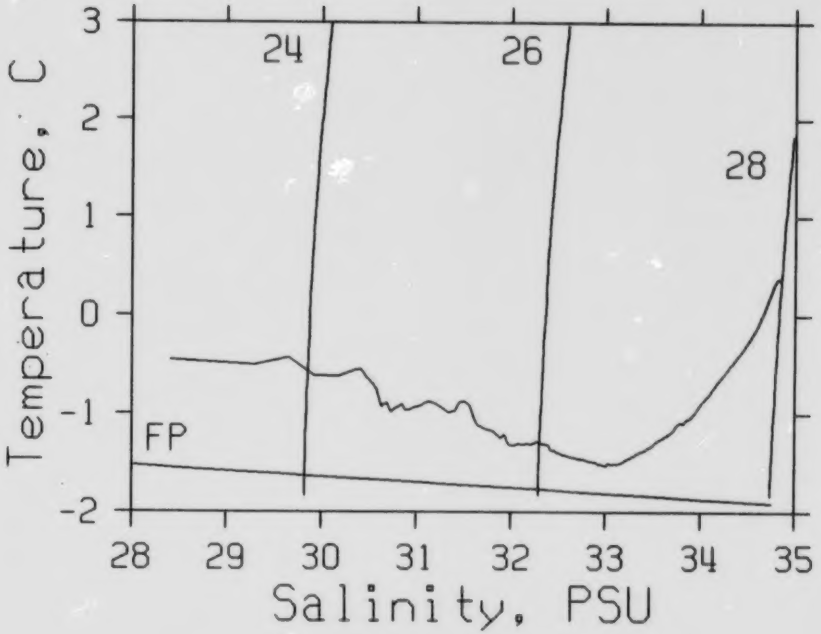
REFERENCE NØ.: 90-70-014

DATE/TIME : 09/09/90 16:49 UTC

PØSITIØN : 71- 3.9N 134-36.2W

PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	-1.030	-1.030	26.476	21.28	653.0	.00	.00	1433
10	10	-1.006	-1.006	26.503	21.30	651.0	.65	.03	1433
20	20	-.556	-.557	30.369	24.41	353.0	1.16	.11	1441
30	30	-.888	-.888	30.690	24.68	327.3	1.50	.19	1440
50	49	-1.121	-1.122	31.651	25.47	252.6	2.09	.43	1440
75	74	-1.298	-1.299	32.303	26.00	201.9	2.65	.78	1441
100	99	-1.442	-1.444	32.655	26.29	174.4	3.11	1.20	1441
125	124	-1.490	-1.492	32.895	26.49	155.8	3.53	1.67	1441
150	148	-1.493	-1.496	33.174	26.71	134.3	3.89	2.17	1442
175	173	-1.285	-1.289	33.542	27.01	106.6	4.19	2.67	1444
200	198	-.891	-.896	34.012	27.37	71.7	4.41	3.09	1447
250	247	-.161	-.170	34.583	27.80	31.0	4.65	3.63	1452
300	297	.224	.212	34.752	27.92	20.1	4.77	3.96	1455
400	396	.388	.371	34.864	28.00	12.4	4.94	4.56	1457





NOGAP DATA REPORT

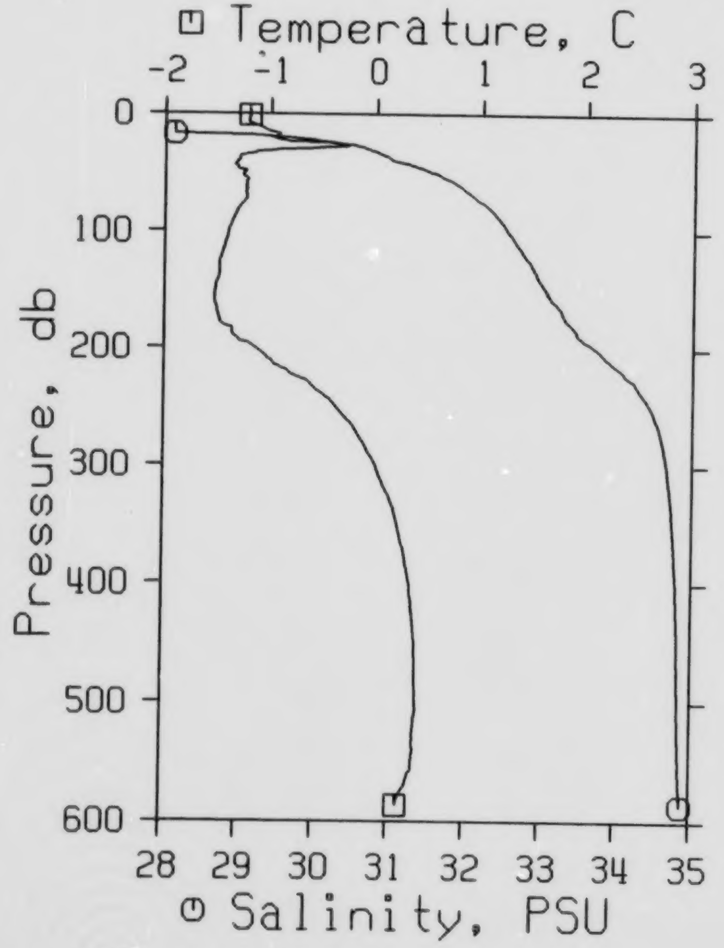
STATION : L008

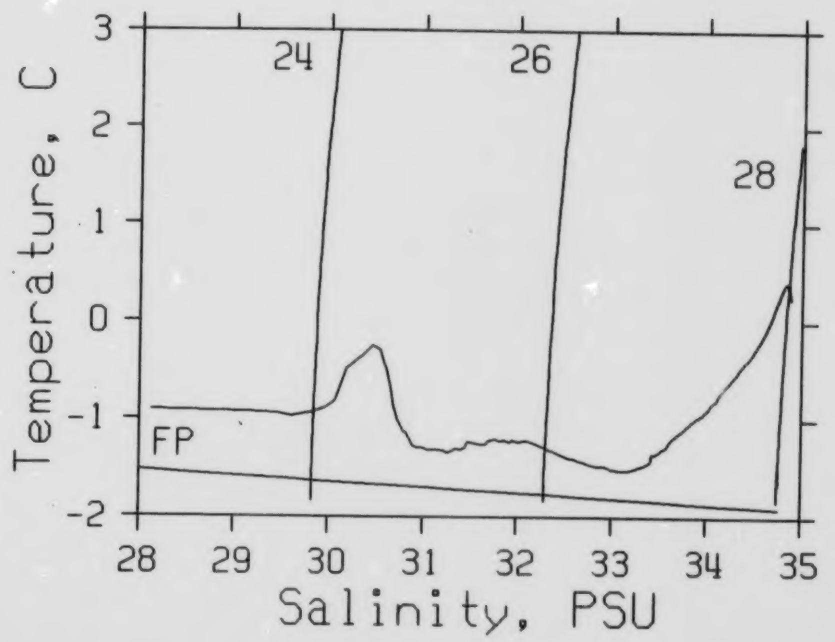
REFERENCE NO.: 90-70-015

DATE/TIME : 09/09/90 17:40 UTC

POSITION : 71-10.1N 143-39.8W

PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	-1.199	-1.199	26.415	21.23	657.6	.00	.00	1432
10	10	-1.124	-1.124	26.514	21.31	649.9	.66	.03	1433
20	20	-.976	-.976	29.610	23.81	410.5	1.23	.12	1438
30	30	-.889	-.890	30.696	24.69	326.8	1.58	.21	1440
50	49	-1.252	-1.253	31.581	25.42	257.7	2.17	.44	1439
75	74	-1.249	-1.251	32.197	25.91	210.2	2.75	.81	1441
100	99	-1.389	-1.391	32.543	26.20	183.2	3.23	1.24	1441
125	124	-1.471	-1.473	32.823	26.43	161.4	3.66	1.73	1441
150	148	-1.514	-1.517	33.048	26.61	143.9	4.04	2.26	1442
175	173	-1.471	-1.475	33.320	26.83	123.1	4.37	2.81	1443
200	198	-1.127	-1.132	33.725	27.15	93.0	4.64	3.32	1445
250	247	-.364	-.372	34.459	27.71	39.6	4.95	4.02	1451
300	297	.012	.000	34.670	27.86	25.2	5.11	4.45	1454
400	396	.344	.327	34.799	27.95	17.1	5.31	5.18	1457
500	494	.410	.389	34.839	27.98	14.4	5.47	5.91	1459
600	593	.188	.162	34.893	28.03	9.0	5.60	6.61	1460





NØGAP DATA REPORT

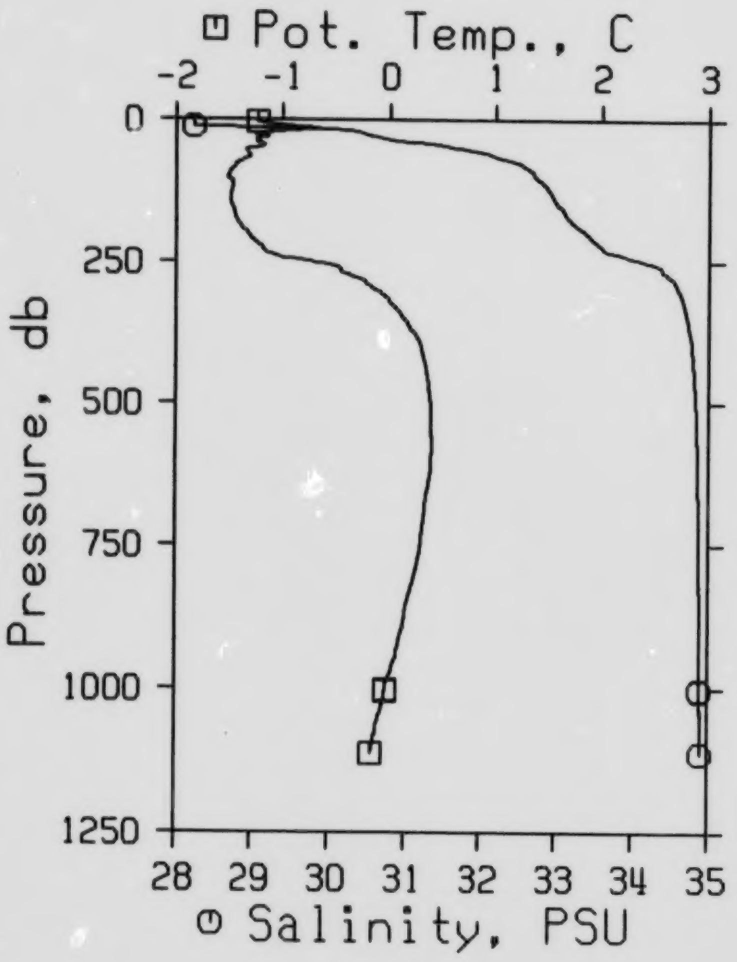
STATIØN : L009

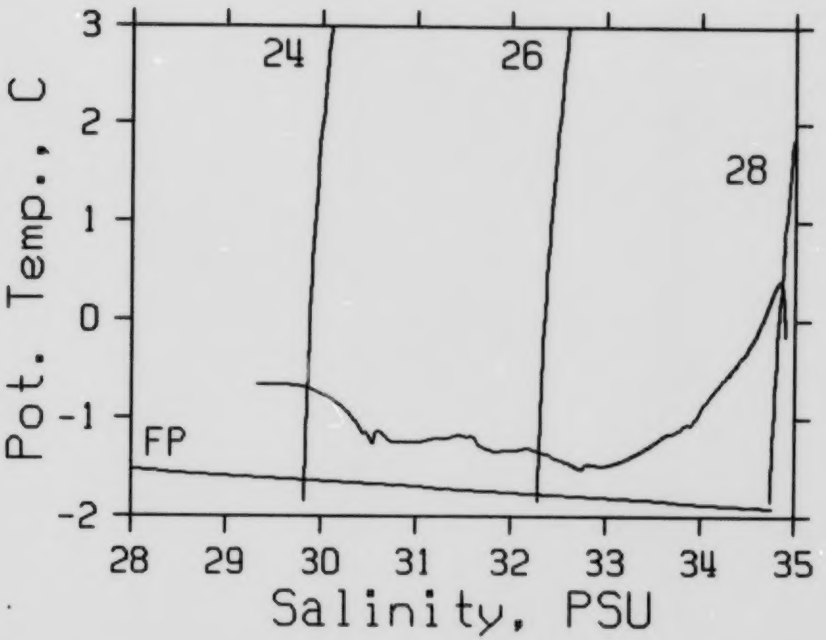
REFERENCE NO.: 90-70-016

DATE/TIME : 09/09/90 20:09 UTC

PØSITIØN : 71-16.6N 134-55.7W

PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	-1.249	-1.249	25.922	20.83	695.9	.00	.00	1431
10	10	-.934	-.934	27.282	21.93	590.6	.67	.03	1435
20	20	-1.071	-1.072	30.395	24.45	349.6	1.09	.10	1438
30	30	-1.145	-1.145	30.644	24.65	330.3	1.43	.18	1438
50	49	-1.315	-1.316	31.762	25.56	243.6	2.00	.41	1439
75	74	-1.417	-1.419	32.505	26.17	186.0	2.53	.75	1440
100	99	-1.511	-1.513	32.733	26.36	168.3	2.97	1.13	1441
125	124	-1.479	-1.481	32.920	26.51	153.9	3.37	1.59	1441
150	148	-1.468	-1.472	33.035	26.60	145.1	3.74	2.11	1442
175	173	-1.424	-1.428	33.180	26.72	134.0	4.09	2.68	1443
200	198	-1.313	-1.317	33.406	26.90	116.9	4.40	3.28	1444
250	247	-.678	-.686	34.194	27.51	58.6	4.87	4.35	1449
300	297	-.096	-.107	34.620	27.83	28.5	5.06	4.88	1453
400	396	.313	.296	34.785	27.94	18.0	5.29	5.67	1457
500	494	.408	.387	34.832	27.97	14.9	5.45	6.43	1459
600	593	.417	.390	34.858	27.99	12.9	5.60	7.23	1461
800	790	.272	.236	34.880	28.02	10.4	5.84	8.97	1463
1000	987	.007	-.037	34.897	28.05	7.7	6.03	10.69	1465
1112	1098	-.114	-.164	34.904	28.06	6.5	6.11	11.53	1467





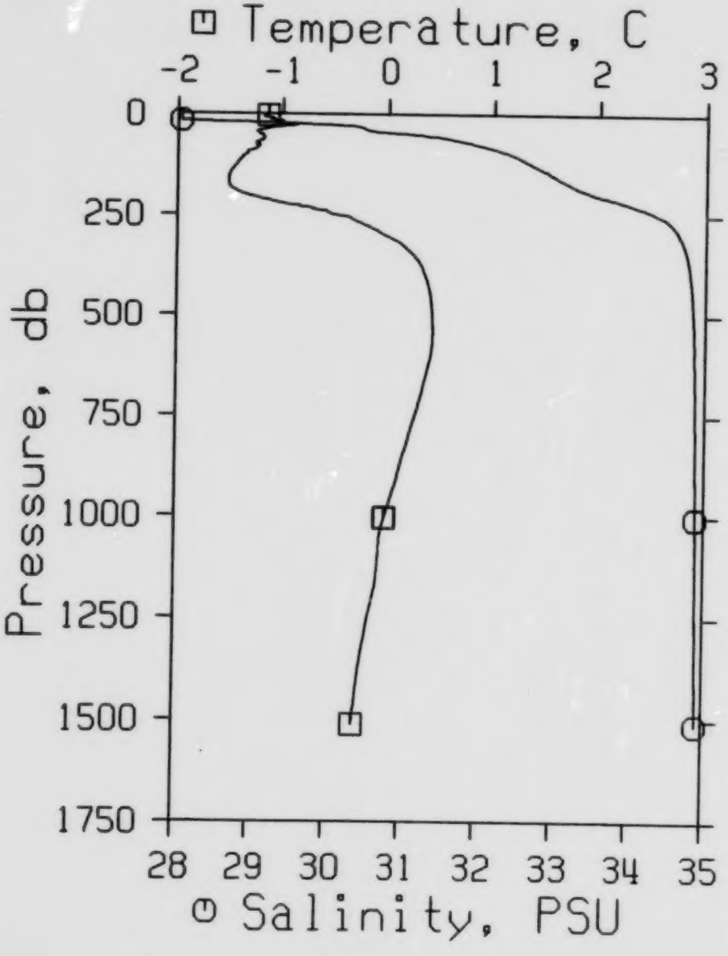
NOGAP DATA REPORT

STATION : L009

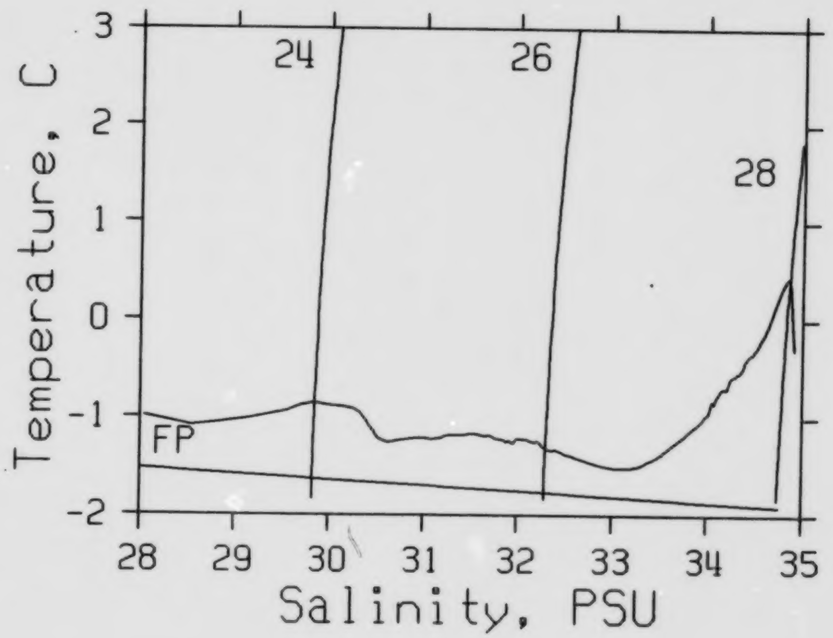
REFERENCE NO.: 90-70-017

DATE/TIME : 09/09/90 22:19 UTC

POSITION : 71-16.6N 134-55.7W



PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	-1.135	-1.135	24.141	19.39	834.5	.00	.00	1429
10	10	-1.113	-1.113	25.136	20.19	757.1	.82	.04	1431
20	20	-1.060	-1.060	28.833	23.18	470.4	1.43	.13	1436
30	30	-.992	-.993	30.364	24.42	352.2	1.83	.23	1439
50	49	-1.212	-1.213	31.179	25.09	288.8	2.49	.50	1439
75	74	-1.241	-1.242	31.976	25.74	227.3	3.12	.90	1440
100	99	-1.344	-1.346	32.442	26.12	191.1	3.64	1.36	1441
125	124	-1.435	-1.437	32.705	26.33	170.6	4.08	1.87	1441
150	148	-1.503	-1.506	32.961	26.54	150.7	4.48	2.42	1442
175	173	-1.506	-1.509	33.222	26.75	130.6	4.83	3.00	1443
200	198	-1.344	-1.348	33.552	27.02	105.6	5.13	3.56	1444
250	247	-.473	-.481	34.384	27.66	44.8	5.48	4.35	1450
300	297	-.024	-.035	34.655	27.85	26.2	5.64	4.81	1453
400	396	.359	.342	34.800	27.95	17.1	5.85	5.53	1457
500	494	.429	.407	34.844	27.98	14.1	6.00	6.25	1459
600	593	.416	.389	34.865	28.00	12.4	6.14	7.02	1461
800	790	.213	.177	34.885	28.03	9.7	6.38	8.67	1463
1000	987	-.007	-.052	34.896	28.05	7.7	6.56	10.31	1465
1200	1184	-.119	-.173	34.904	28.06	6.5	6.69	11.86	1468
1500	1479	-.294	-.364	34.918	28.08	4.5	6.84	13.80	1472
1512	1491	-.299	-.370	34.920	28.08	4.3	6.84	13.86	1473



NØGAP DATA REPØRT

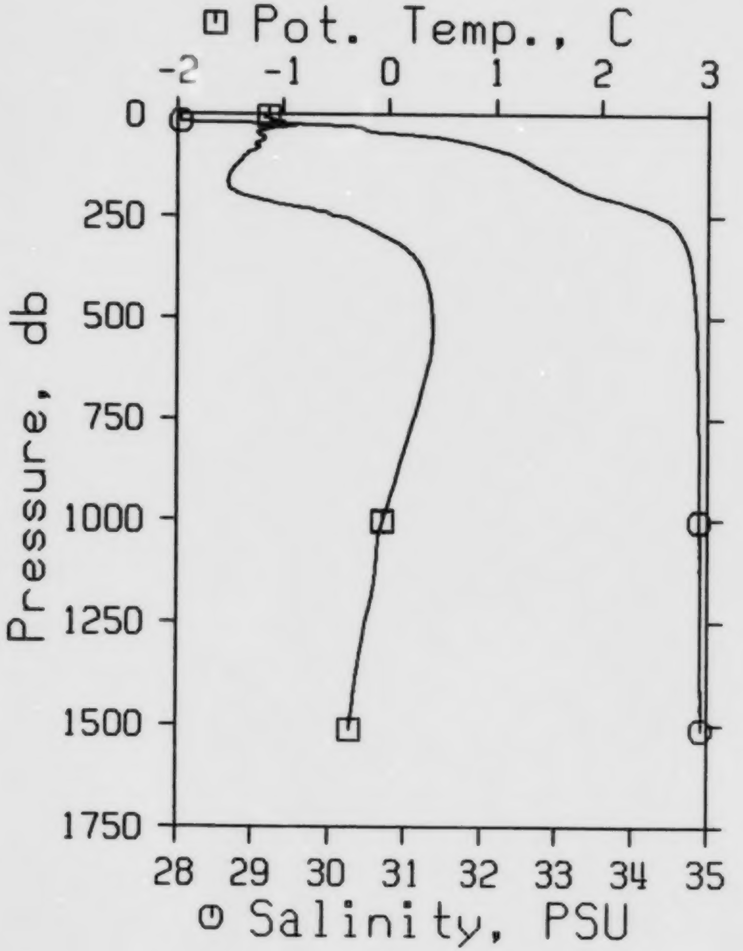
STATIØN : L010

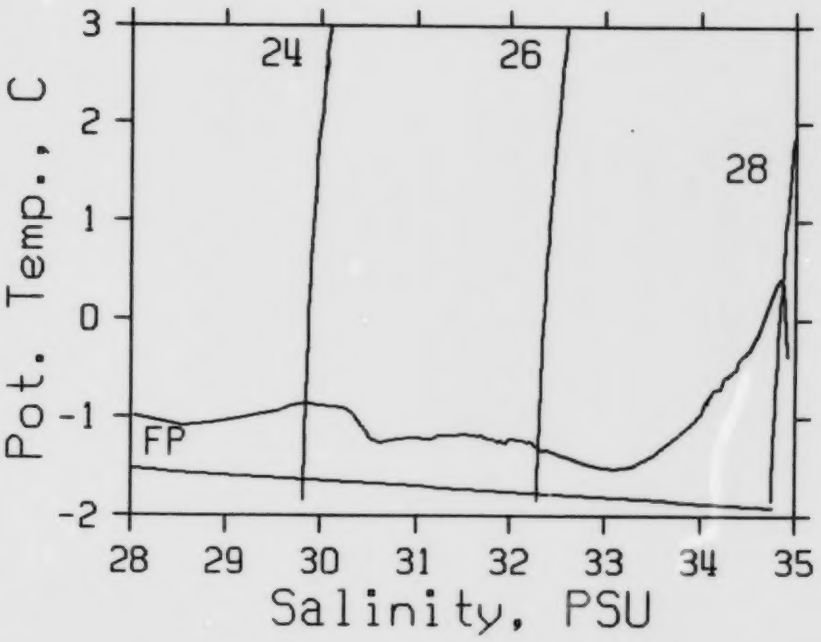
REFERENCE NØ.: 90-70-017

DATE/TIME : 09/09/90 22:19 UTC

PØSITIØN : 71-27.2N 135-32.6W

PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	-1.135	-1.135	24.141	19.39	834.5	.00	.00	1429
10	10	-1.113	-1.113	25.136	20.19	757.1	.82	.04	1431
20	20	-1.060	-1.060	28.833	23.18	470.4	1.43	.13	1436
30	30	-.992	-.993	30.364	24.42	352.2	1.83	.23	1439
50	49	-1.212	-1.213	31.179	25.09	288.8	2.49	.50	1439
75	74	-1.241	-1.242	31.976	25.74	227.3	3.12	.90	1440
100	99	-1.344	-1.346	32.442	26.12	191.1	3.64	1.36	1441
125	124	-1.435	-1.437	32.705	26.33	170.6	4.08	1.87	1441
150	148	-1.503	-1.506	32.961	26.54	150.7	4.48	2.42	1442
175	173	-1.506	-1.509	33.222	26.75	130.6	4.83	3.00	1443
200	198	-1.344	-1.348	33.552	27.02	105.6	5.13	3.56	1444
250	247	-.473	-.481	34.384	27.66	44.8	5.48	4.35	1450
300	297	-.024	-.035	34.655	27.85	26.2	5.64	4.81	1453
400	396	.359	.342	34.800	27.95	17.1	5.85	5.53	1457
500	494	.429	.407	34.844	27.98	14.1	6.00	6.25	1459
600	593	.416	.389	34.865	28.00	12.4	6.14	7.02	1461
800	790	.213	.177	34.885	28.03	9.7	6.38	8.67	1463
1000	987	-.007	-.052	34.896	28.05	7.7	6.56	10.31	1465
1200	1184	-.119	-.173	34.904	28.06	6.5	6.69	11.86	1468
1500	1479	-.294	-.364	34.918	28.08	4.5	6.84	13.80	1472
1512	1491	-.299	-.370	34.920	28.08	4.3	6.84	13.86	1473





NØGAP DATA REPØRT

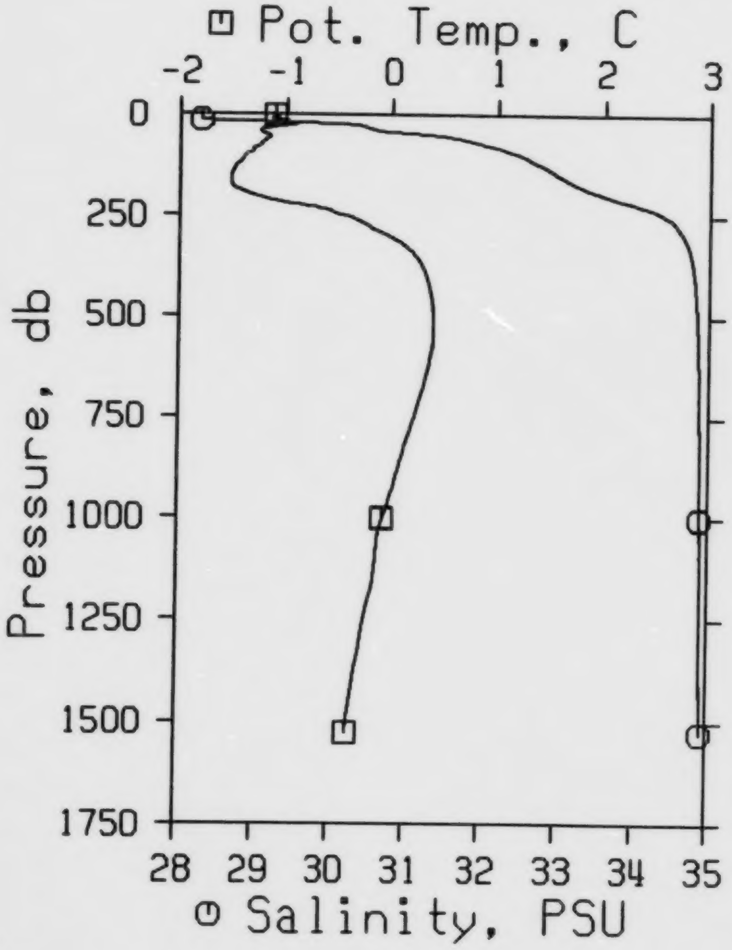
STATIØN : L010

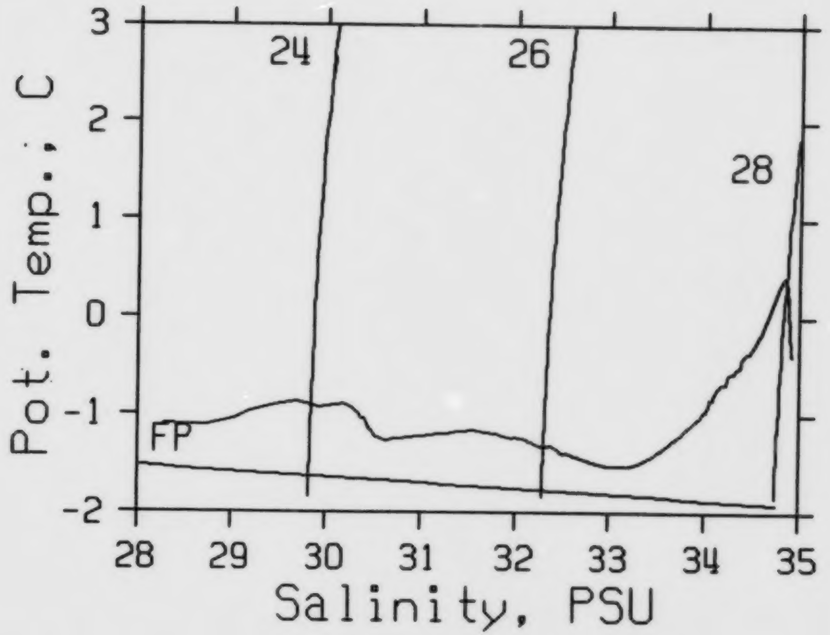
REFERENCE NØ.: 90-70-018

DATE/TIME : 10/09/90 00:05 UTC

PØSITIØN : 71-27.2N 135-32.6W

PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	-1.114	-1.114	24.168	19.41	832.4	.00	.00	1429
10	10	-1.114	-1.114	26.177	21.03	676.1	.77	.04	1432
20	20	-.870	-.870	29.694	23.88	404.2	1.28	.11	1438
30	30	-1.125	-1.125	30.451	24.50	345.2	1.64	.20	1438
50	49	-1.166	-1.167	31.393	25.26	272.4	2.28	.46	1440
75	74	-1.241	-1.243	32.077	25.82	219.5	2.88	.84	1441
100	99	-1.390	-1.392	32.502	26.17	186.3	3.39	1.29	1441
125	124	-1.467	-1.470	32.784	26.40	164.4	3.82	1.79	1441
150	148	-1.519	-1.522	33.013	26.58	146.7	4.21	2.32	1442
175	173	-1.502	-1.506	33.273	26.80	126.7	4.55	2.89	1443
200	198	-1.297	-1.302	33.621	27.07	100.5	4.83	3.42	1444
250	247	-.389	-.398	34.427	27.69	41.9	5.16	4.17	1451
300	297	-.006	-.018	34.662	27.86	25.7	5.32	4.61	1454
400	396	.352	.335	34.800	27.95	17.0	5.52	5.33	1457
500	494	.423	.401	34.844	27.98	14.1	5.68	6.05	1459
600	593	.403	.376	34.865	28.00	12.3	5.82	6.82	1461
800	790	.199	.163	34.885	28.03	9.6	6.05	8.45	1463
1000	987	-.017	-.061	34.897	28.05	7.5	6.23	10.07	1465
1200	1184	-.133	-.188	34.904	28.06	6.4	6.36	11.60	1468
1500	1479	-.311	-.380	34.919	28.08	4.4	6.50	13.50	1472
1526	1505	-.320	-.391	34.921	28.08	4.2	6.51	13.62	1473





NØGAP DATA REPØRT

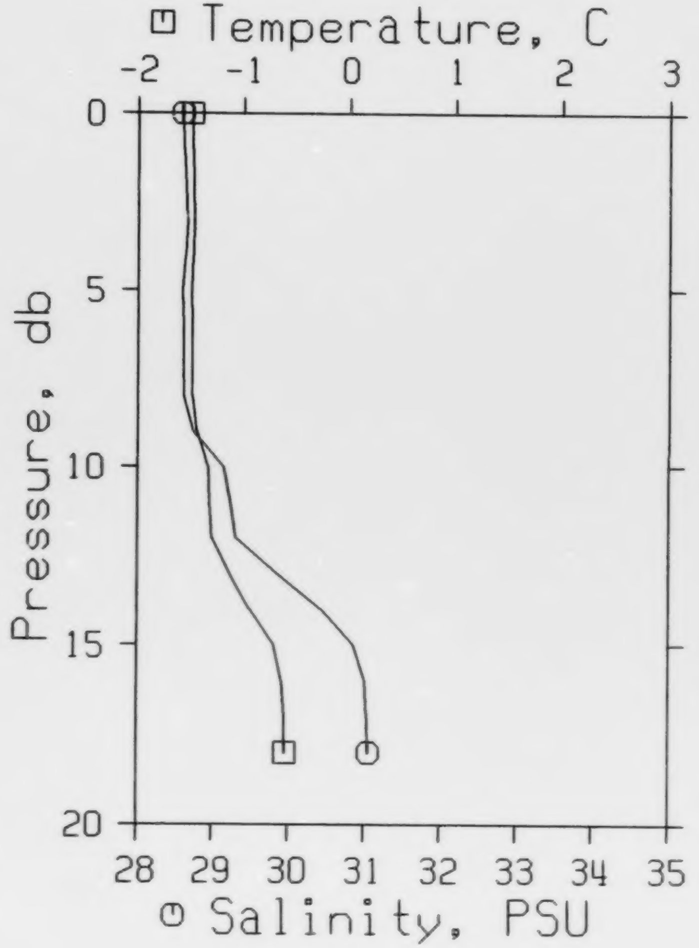
STATIØN : L010

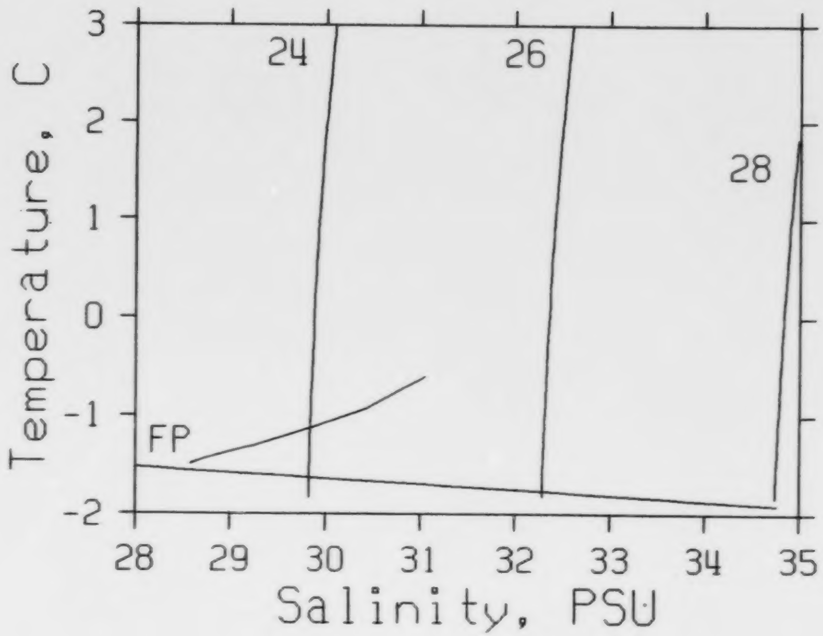
REFERENCE NØ.: 90-70-019

DATE/TIME : 11/09/90 17:44 UTC

PØSITIØN : 71-27.2N 135-32.6W

PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	-1.487	-1.487	28.594	23.00	488.2	.00	.00	1434
10	10	-1.327	-1.327	29.145	23.44	445.8	.48	.02	1435
20	20	-.286	-.287	31.974	25.70	230.5	.83	.07	1444





NØGAP DATA REPØRT

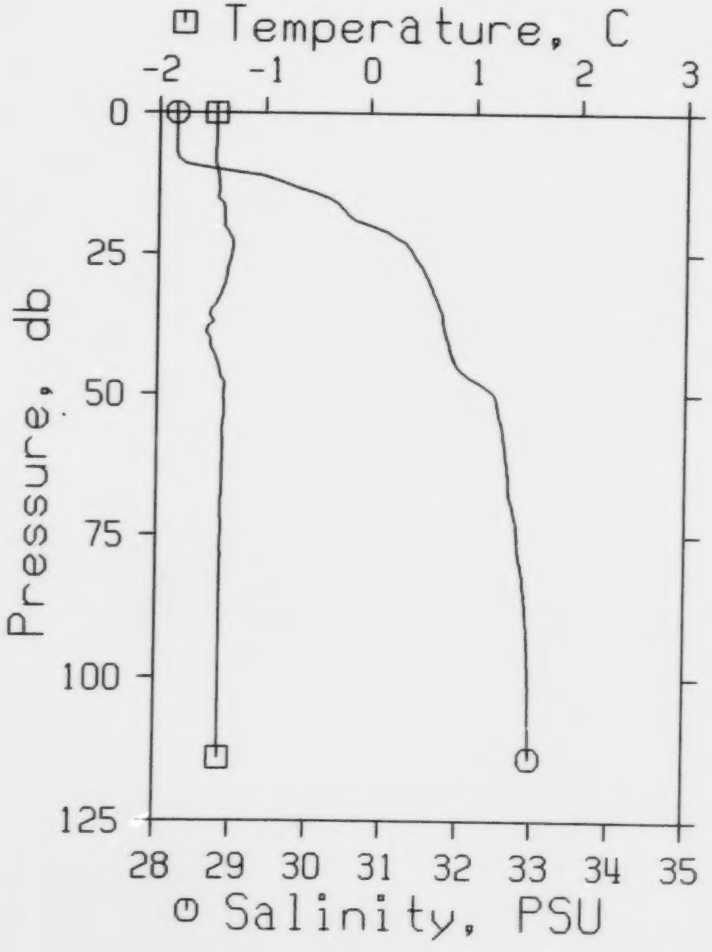
STATIØN : L010

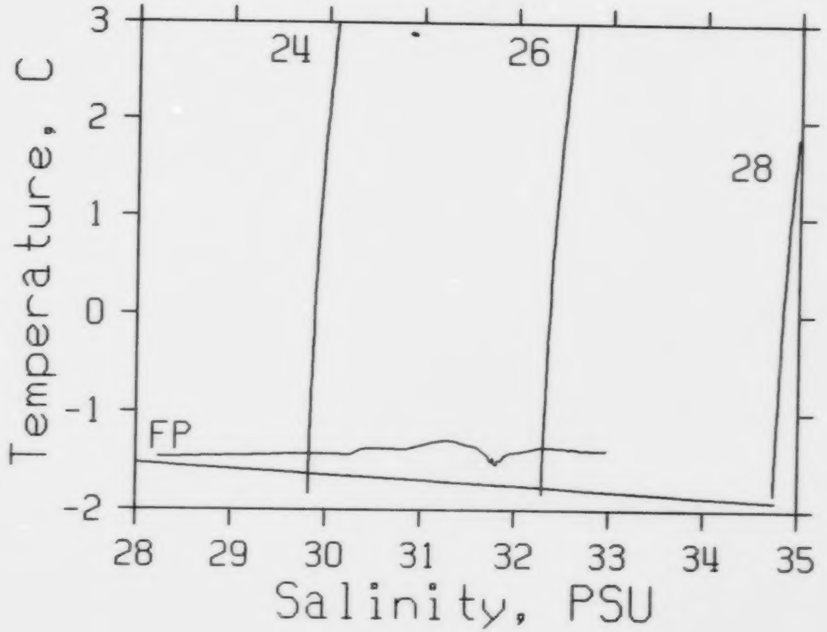
REFERENCE NØ.: 90-70-020

DATE/TIME : 11/09/90 21:05 UTC

PØSITIØN : 72- 5.7M 127- 1.9W

PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	-1.458	-1.458	28.240	22.71	515.7	.00	.00	1433
10	10	-1.449	-1.449	28.792	23.16	473.0	.51	.03	1434
20	20	-1.377	-1.377	30.844	24.82	314.3	.88	.08	1437
30	30	-1.357	-1.358	31.593	25.43	256.5	1.16	.15	1439
50	49	-1.367	-1.368	32.462	26.13	189.5	1.63	.34	1440
75	74	-1.389	-1.390	32.786	26.40	164.5	2.07	.62	1441
100	99	-1.390	-1.393	32.954	26.53	151.6	2.46	.96	1441
114	113	-1.387	-1.389	32.974	26.55	150.0	2.67	1.19	1442





NØGAP DATA REPØRT

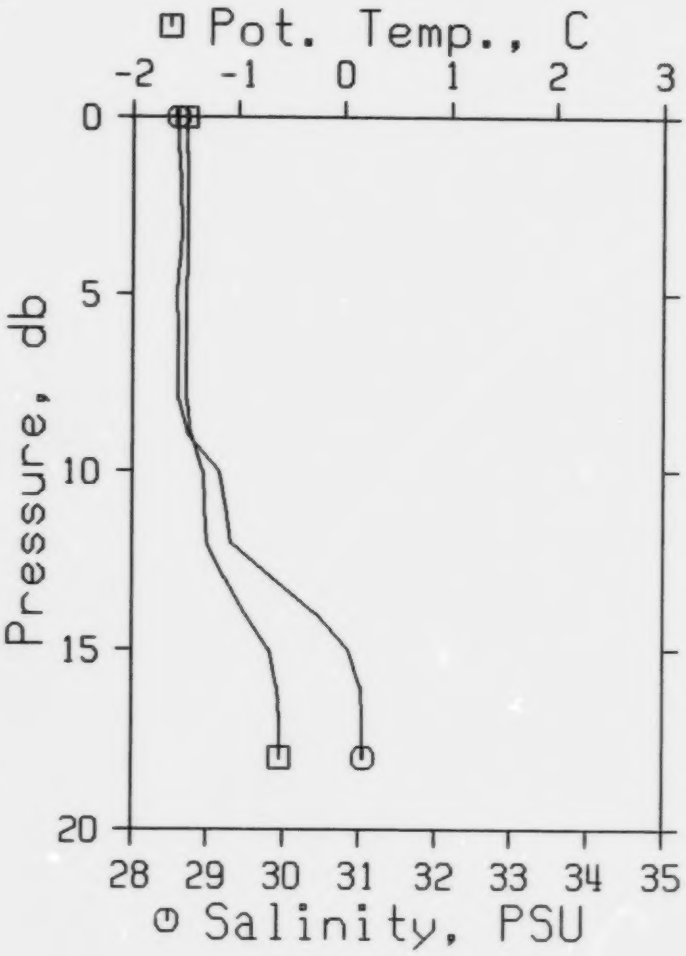
STATIØN : L011

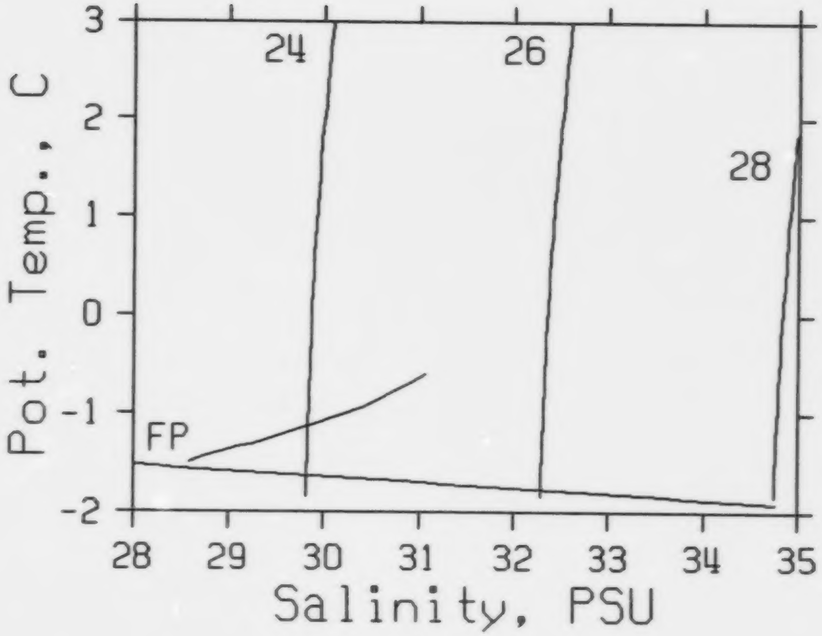
REFERENCE NØ.: 90-70-019

DATE/TIME : 11/09/90 17:44 UTC

PØSITIØN : 72- 5.1N 126-20.2W

PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	-1.487	-1.487	28.602	23.00	487.6	.00	.00	1434
10	10	-1.327	-1.327	29.153	23.45	445.2	.48	.02	1435
20	20	-.286	-.287	31.982	25.71	229.9	.83	.07	1444





NØGAP DATA REPØRT

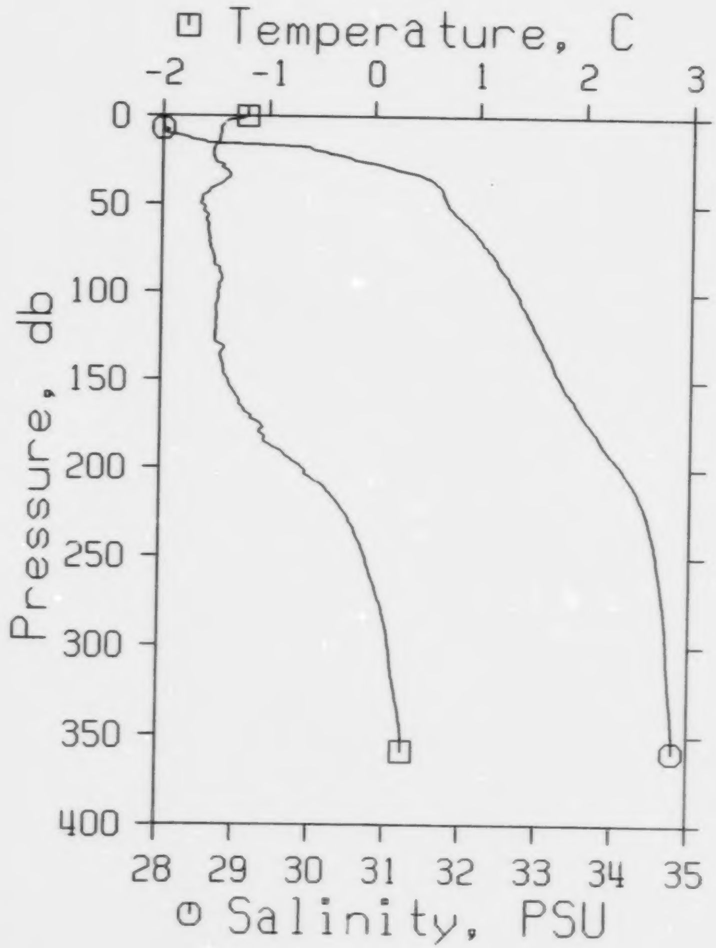
STATIØN : L013

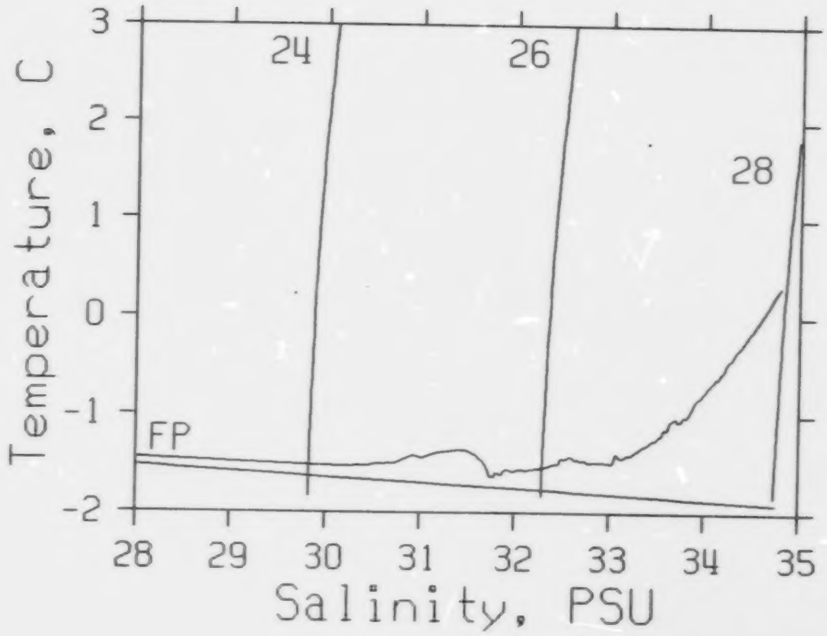
REFERENCE NØ.: 90-70-021

DATE/TIME : 11/09/90 23:05 UTC

PØSITIØN : 72- 7.6N 127-40.3W

PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	-1.203	-1.203	25.109	20.17	759.1	.00	.00	1430
10	10	-1.452	-1.452	28.073	22.57	528.7	.57	.03	1433
20	20	-1.523	-1.523	30.137	24.25	368.7	1.03	.10	1436
30	30	-1.407	-1.408	31.105	25.03	294.1	1.36	.18	1438
50	49	-1.630	-1.631	31.783	25.59	241.3	1.87	.39	1438
75	74	-1.534	-1.536	32.311	26.01	200.7	2.42	.73	1440
100	99	-1.467	-1.469	32.699	26.33	171.0	2.88	1.14	1441
125	124	-1.489	-1.491	32.999	26.57	147.8	3.28	1.59	1441
150	148	-1.366	-1.369	33.285	26.80	126.1	3.62	2.07	1443
175	173	-1.051	-1.055	33.666	27.10	97.7	3.90	2.53	1445
200	198	-.650	-.656	34.111	27.44	65.1	4.10	2.91	1448
250	247	-.054	-.064	34.572	27.79	32.4	4.32	3.42	1452
300	297	.176	.164	34.716	27.89	22.6	4.45	3.79	1454
359	355	.315	.300	34.813	27.96	15.9	4.57	4.16	1456





NOGAP DATA REPORT

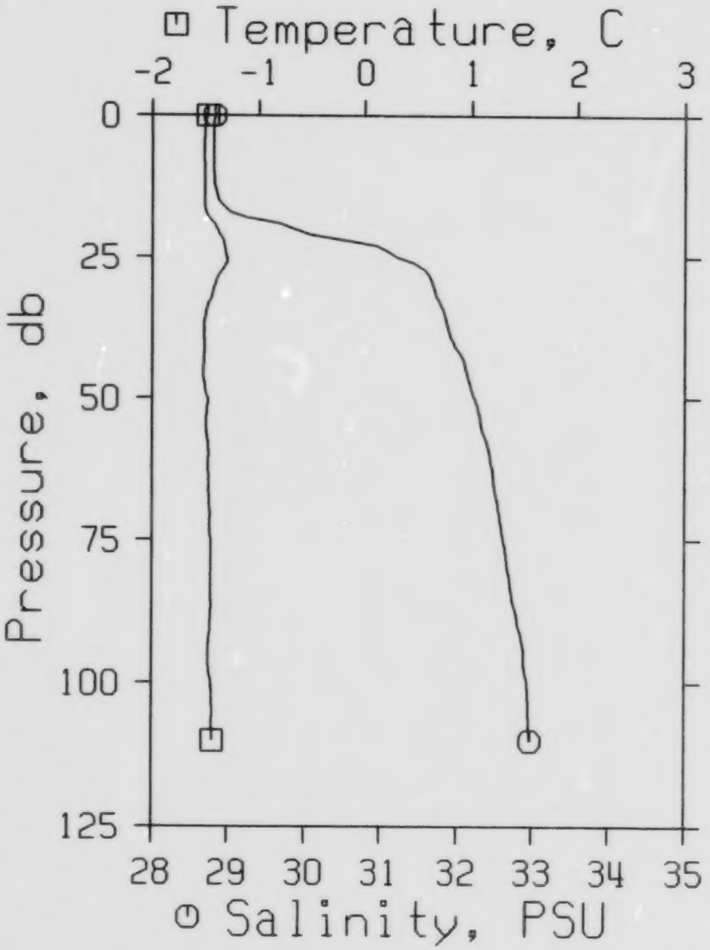
STATION : L014

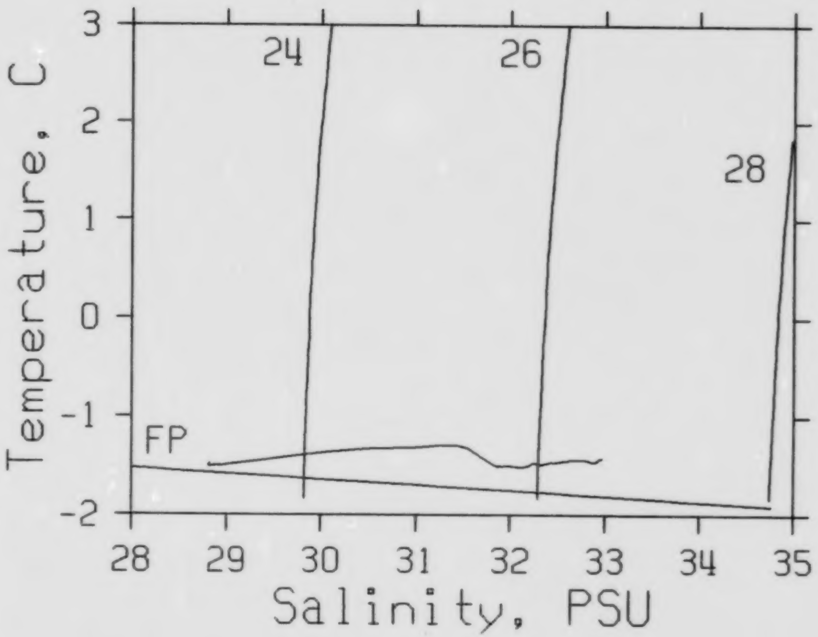
REFERENCE NO.: 90-70-022

DATE/TIME : 12/09/90 14:57 UTC

POSITION : 73-11.6N 126-28.9W

PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	-1.475	-1.475	28.831	23.19	469.9	.00	.00	1434
10	10	-1.504	-1.504	28.818	23.18	470.9	.47	.02	1434
20	20	-1.382	-1.382	29.879	24.04	388.9	.92	.09	1436
30	30	-1.411	-1.411	31.693	25.51	248.7	1.22	.17	1439
50	49	-1.469	-1.470	32.238	25.95	206.5	1.67	.35	1439
75	74	-1.440	-1.441	32.620	26.26	177.1	2.15	.65	1440
100	99	-1.434	-1.436	32.938	26.52	152.6	2.56	1.01	1441
110	109	-1.424	-1.426	32.975	26.55	149.8	2.71	1.17	1442





NOGAP DATA REPORT

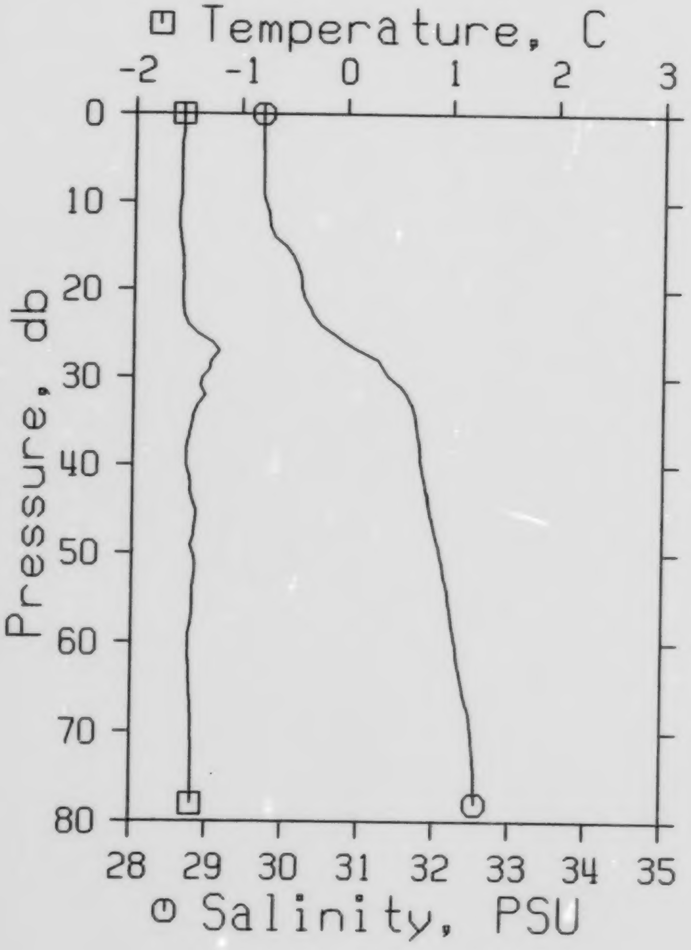
STATION : L015

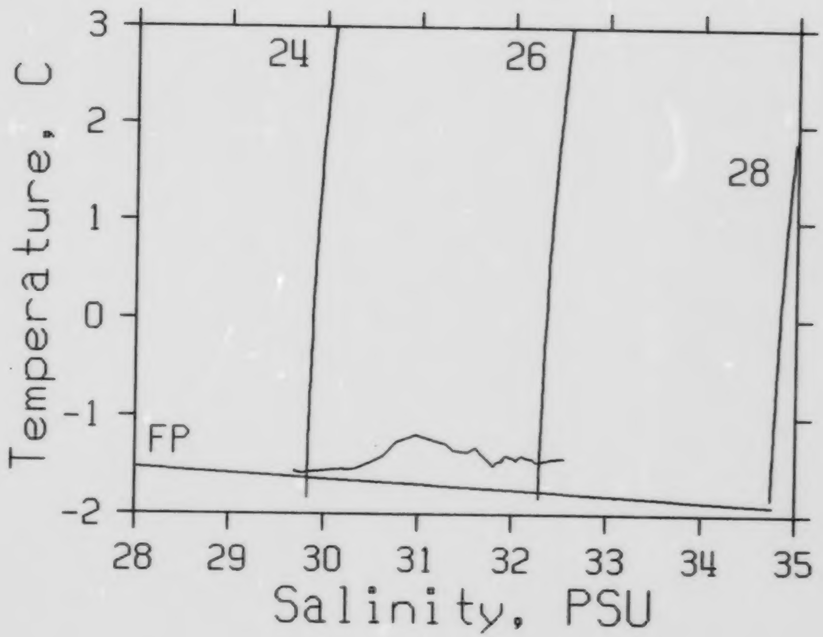
REFERENCE NO.: 90-70-023

DATE/TIME : 12/09/90 17:39 UTC

POSITION : 73-18.8N 125-51.1W

PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	-1.550	-1.550	29.693	23.89	403.1	.00	.00	1435
10	10	-1.572	-1.572	29.730	23.92	400.1	.40	.02	1435
20	20	-1.544	-1.544	30.219	24.32	362.3	.78	.08	1436
30	30	-1.349	-1.349	31.380	25.25	273.0	1.11	.16	1438
50	49	-1.426	-1.427	32.065	25.81	219.9	1.58	.35	1439
75	74	-1.425	-1.427	32.555	26.21	182.2	2.08	.67	1440
78	77	-1.424	-1.426	32.561	26.22	181.7	2.14	.71	1440





NØGAP DATA REPORT

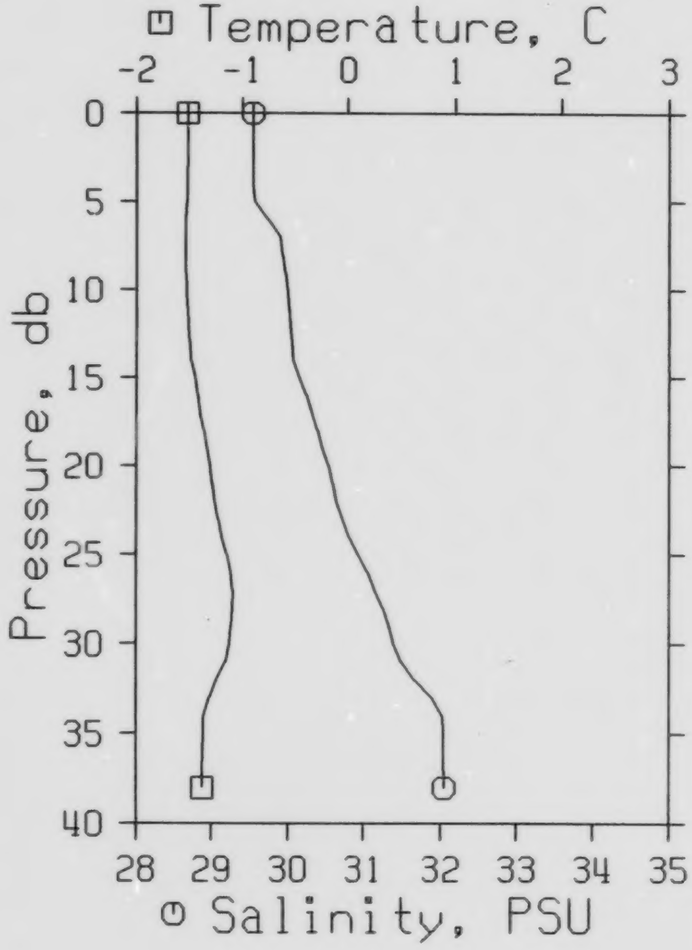
STATIØN : L016

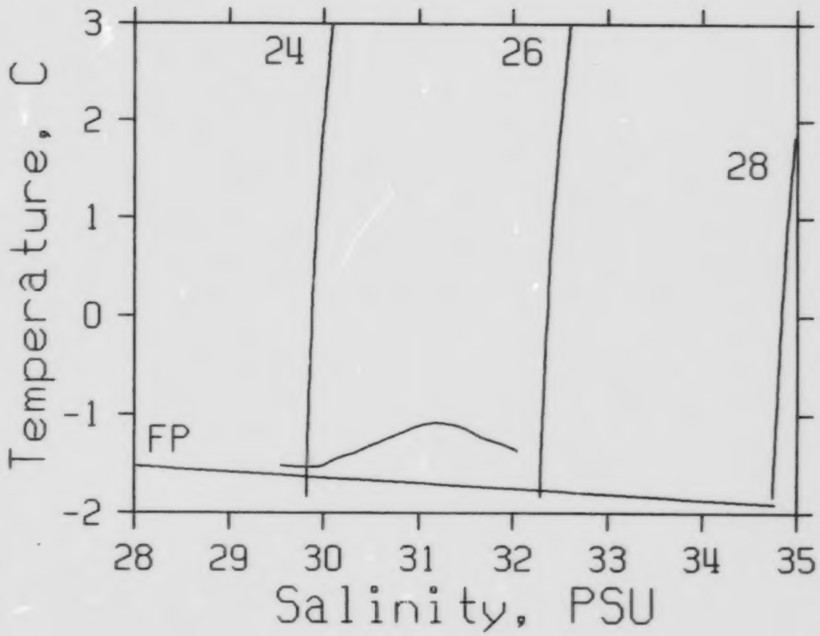
REFERENCE NØ.: 90-70-024

DATE/TIME : 12/09/90 21:15 UTC

PØSITIØN : 72-56.0N 126-13.0W

PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	-1.510	-1.510	29.547	23.77	414.4	.00	.00	1435
10	10	-1.520	-1.521	30.003	24.14	379.0	.40	.02	1435
20	20	-1.295	-1.295	30.545	24.58	337.6	.77	.08	1437
30	30	-1.111	-1.112	31.399	25.26	272.1	1.07	.15	1440
38	38	-1.372	-1.373	32.045	25.79	221.7	1.26	.22	1439





NØGAP DATA REPØRT

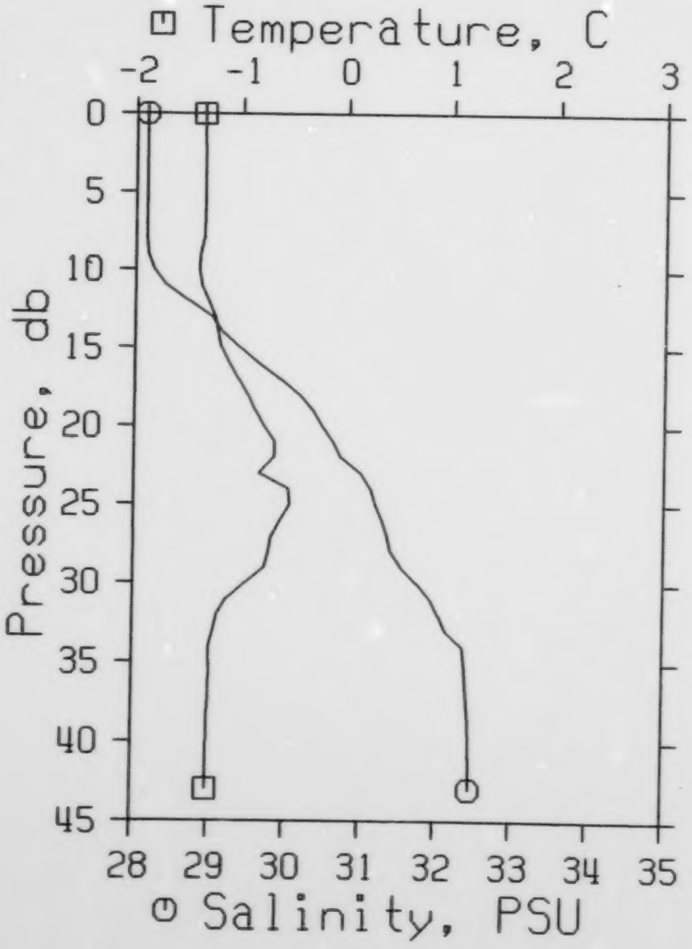
STATIØN : L017

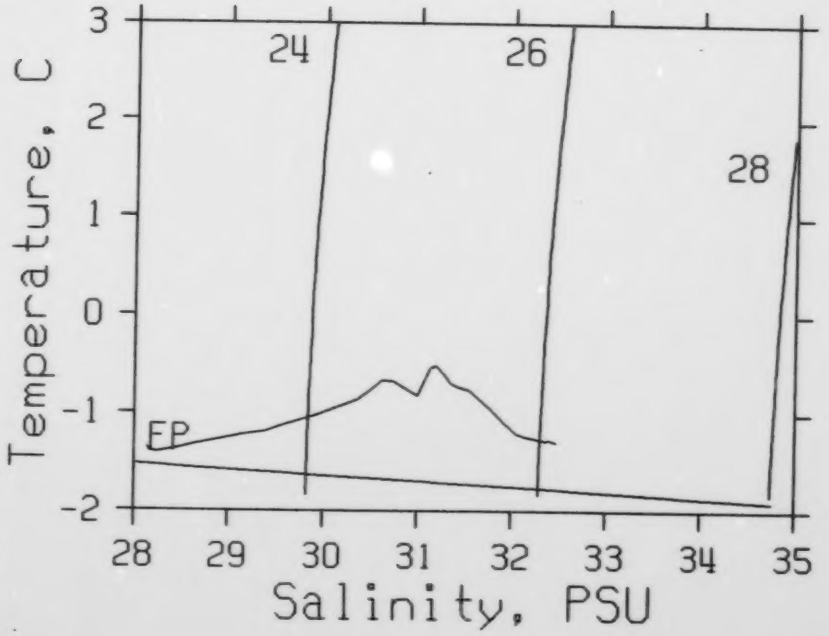
REFERENCE NØ.: 90-70-025

DATE/TIME : 13/09/90 03:25 UTC

PØSITIØN : 71-59.2N 126-30.5W

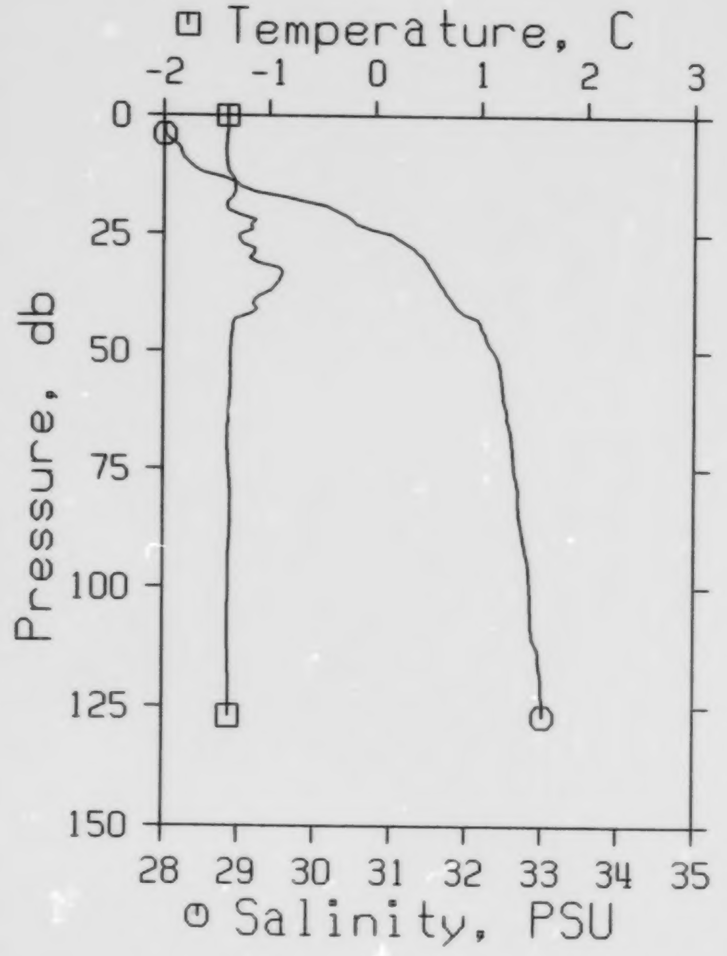
PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	-1.357	-1.357	28.147	22.63	523.1	.00	.00	1434
10	10	-1.405	-1.405	28.248	22.72	515.1	.52	.03	1434
20	20	-.776	-.776	30.487	24.52	343.3	.95	.09	1440
30	30	-.939	-.939	31.750	25.54	245.5	1.24	.16	1441
43	43	-1.297	-1.298	32.471	26.14	189.0	1.50	.26	1440

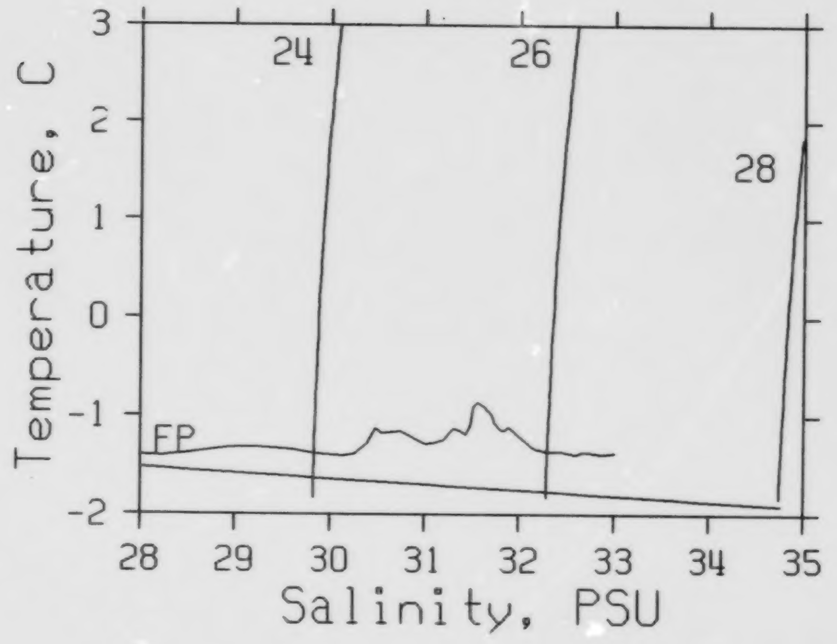




NOGAP DATA REPORT
STATION : L018
REFERENCE NO.: 90-70-026
DATE/TIME : 13/09/90 03:47 UTC
POSITION : 71-56.5N 126-26.0W

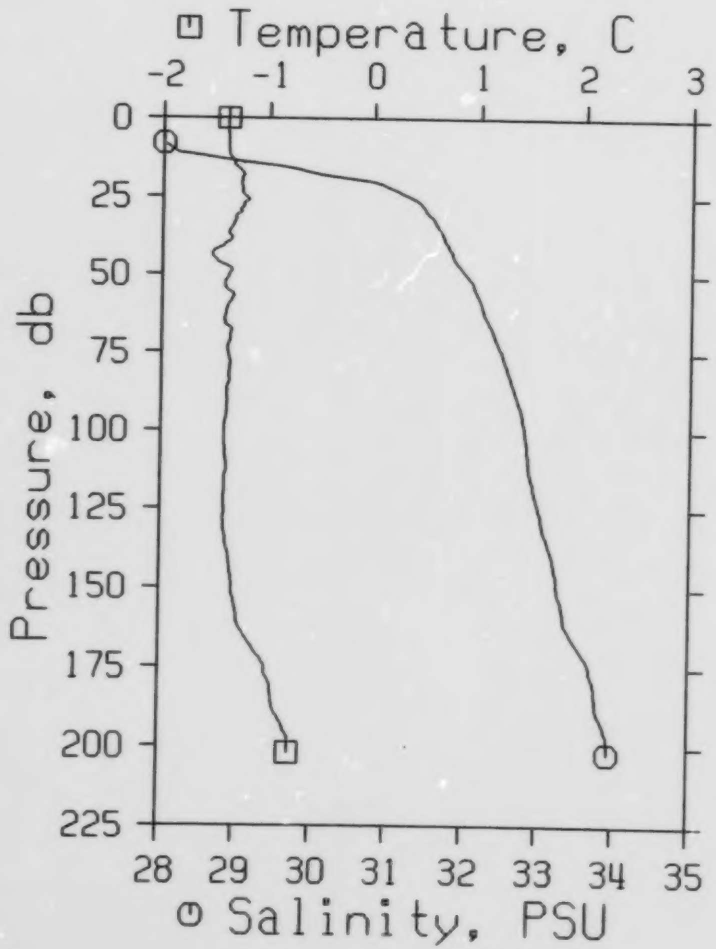
PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	-1.392	-1.392	27.972	22.49	536.6	.00	.00	1433
10	10	-1.397	-1.397	28.338	22.79	508.1	.53	.03	1434
20	20	-1.383	-1.383	30.262	24.35	359.2	.97	.09	1437
30	30	-1.186	-1.186	31.437	25.30	269.0	1.28	.17	1439
50	49	-1.361	-1.362	32.361	26.05	197.3	1.74	.36	1440
75	74	-1.383	-1.384	32.632	26.27	176.4	2.20	.65	1441
100	99	-1.383	-1.385	32.843	26.44	160.1	2.62	1.02	1441
125	124	-1.374	-1.377	33.013	26.58	147.0	3.01	1.46	1442
127	126	-1.374	-1.376	33.021	26.59	146.4	3.03	1.50	1442

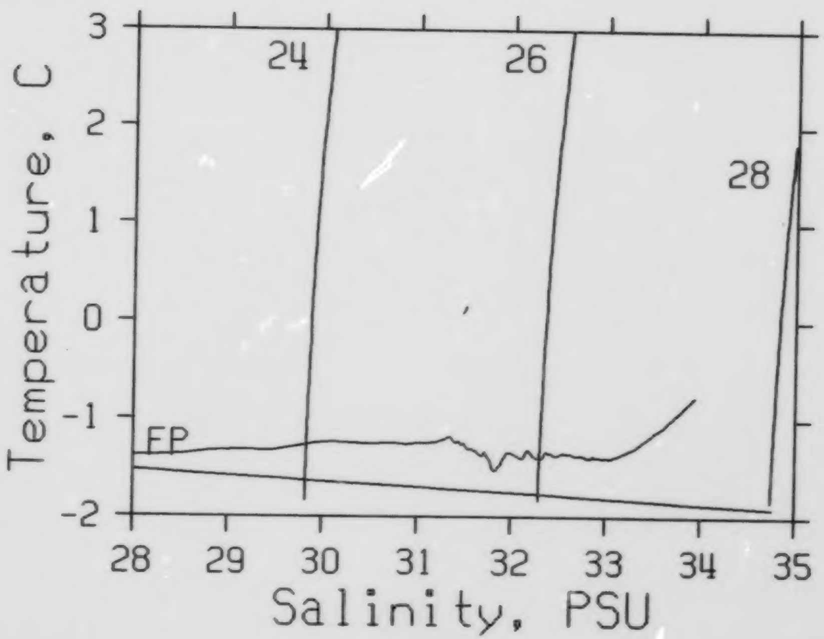




NØGAP DATA REPØRT
STATIØN : L019
REFERENCE NØ.: 90-70-027
DATE/TIME : 13/09/90 04:49 UTC
PØSITIØN : 71-50.1N 126- 9.3W

PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	-1.379	-1.379	27.943	22.47	538.8	.00	.00	1433
10	10	-1.383	-1.383	27.996	22.51	534.7	.54	.03	1433
20	20	-1.248	-1.248	30.762	24.75	320.9	.96	.09	1438
30	30	-1.248	-1.248	31.497	25.35	264.2	1.25	.16	1439
50	49	-1.362	-1.363	32.022	25.78	223.4	1.74	.36	1440
75	74	-1.364	-1.366	32.503	26.17	186.4	2.24	.68	1441
100	99	-1.395	-1.397	32.812	26.42	162.4	2.68	1.06	1441
125	124	-1.392	-1.395	33.000	26.57	148.0	3.06	1.51	1442
150	148	-1.315	-1.318	33.259	26.78	128.2	3.40	1.98	1443
175	173	-.997	-1.002	33.698	27.12	95.5	3.69	2.45	1446
200	198	-.770	-.776	33.943	27.31	77.4	3.90	2.86	1447
202	200	-.770	-.776	33.944	27.31	77.4	3.92	2.89	1447





NØGAP DATA REPORT

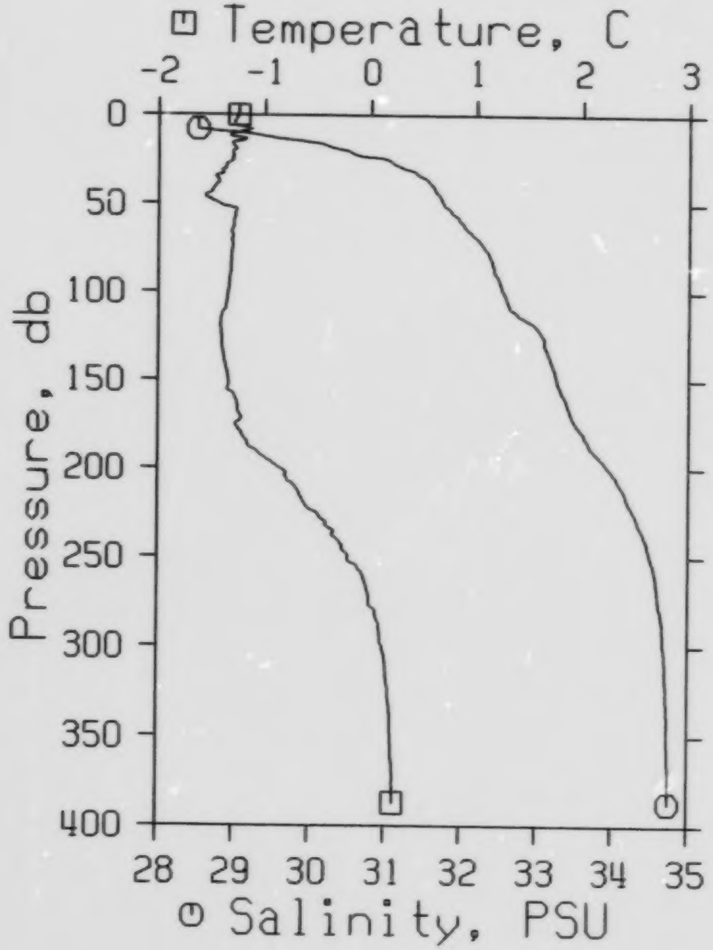
STATIØN : L020

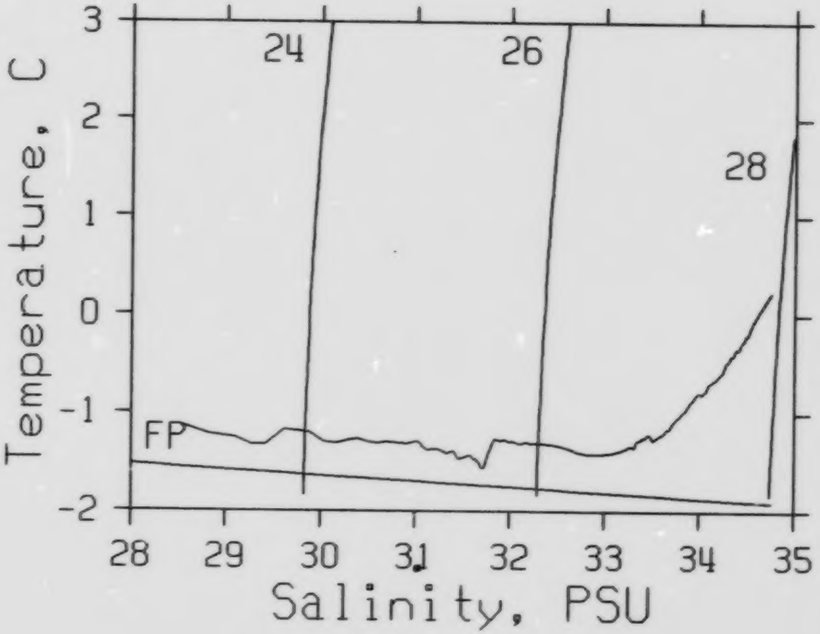
REFERENCE NØ.: 90-70-028

DATE/TIME : 13/09/90 07:01 UTC

PØSITIØN : 71-46.1N 126-38.4W

PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	-1.247	-1.247	26.997	21.70	612.4	.00	.00	1433
10	10	-1.249	-1.249	29.096	23.40	449.6	.57	.03	1435
20	20	-1.295	-1.295	30.501	24.54	341.0	.96	.09	1437
30	30	-1.366	-1.367	31.247	25.15	283.2	1.27	.16	1438
50	49	-1.425	-1.425	31.762	25.57	243.4	1.78	.37	1439
75	74	-1.305	-1.307	32.309	26.01	201.5	2.33	.72	1441
100	99	-1.343	-1.345	32.557	26.21	182.3	2.81	1.14	1441
125	124	-1.403	-1.406	33.076	26.63	142.1	3.22	1.61	1442
150	148	-1.338	-1.341	33.258	26.78	128.2	3.55	2.08	1443
175	173	-1.273	-1.277	33.513	26.98	108.9	3.85	2.57	1444
200	198	-.847	-.852	33.945	27.32	77.0	4.08	3.01	1447
250	247	-.206	-.215	34.505	27.74	36.8	4.34	3.60	1452
300	297	.119	.107	34.688	27.87	24.4	4.49	4.01	1454
400	396	.230	.214	34.759	27.92	19.5	4.70	4.76	1456





NOGAP DATA REPORT

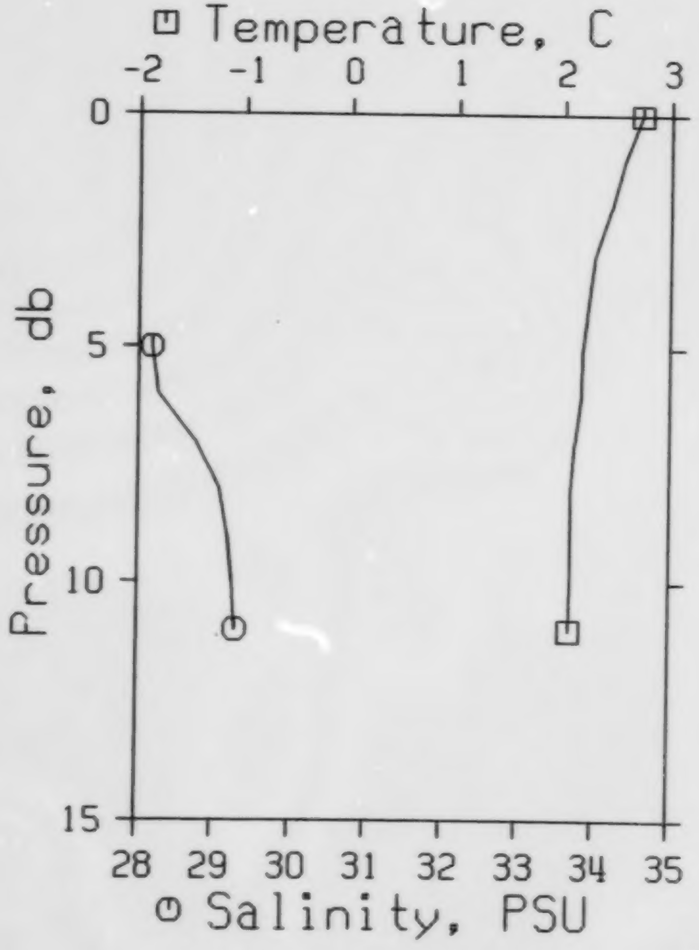
STATION : L021

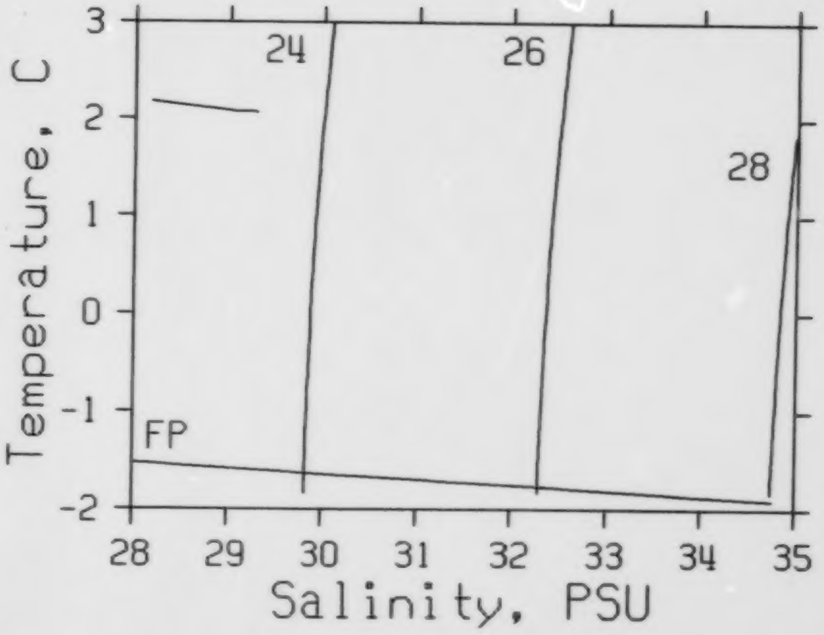
REFERENCE NO.: 90-70-029

DATE/TIME : 14/09/90 15:05 UTC

POSITION : 69-51.4 133-19.3W

PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	2.723	2.723	19.559	15.62	1198.3	.00	.00	1441
10	10	2.077	2.076	29.253	23.39	450.6	.60	.03	1451
11	11	2.066	2.065	29.292	23.42	447.6	.65	.03	1451





NØGAP DATA REPØRT

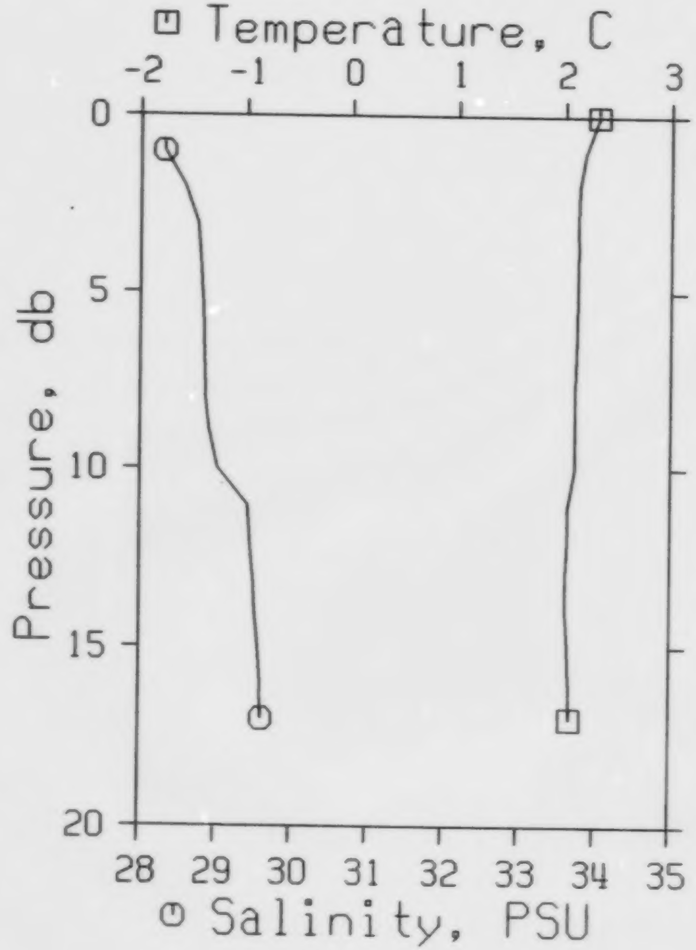
STATIØN : L022

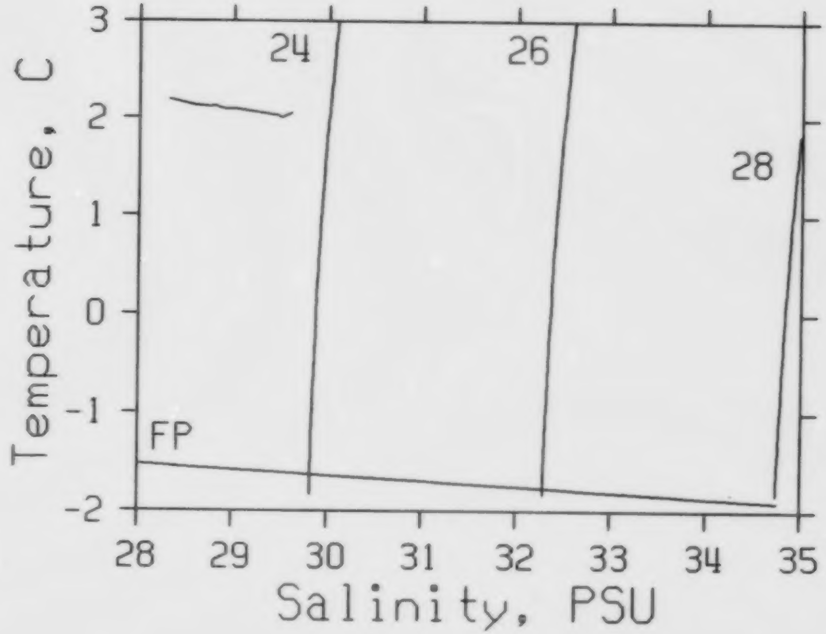
REFERENCE NØ.: 90-70-030

DATE/TIME : 14/09/90 16:28 UTC

PØSITIØN : 69-55.3N 133-23.4W

PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	2.314	2.314	27.293	21.81	601.9	.00	.00	1449
10	10	2.095	2.095	29.021	23.20	468.4	.49	.02	1451
20	20	2.005	2.004	30.025	24.01	391.2	.92	.09	1452





NØGAP DATA REPORT

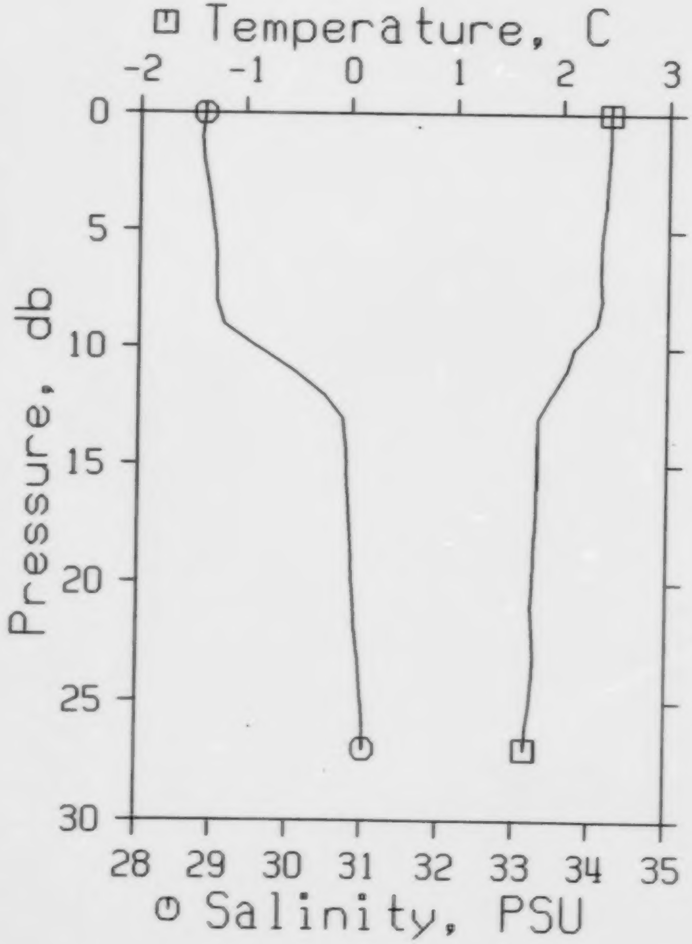
STATIØN : L023

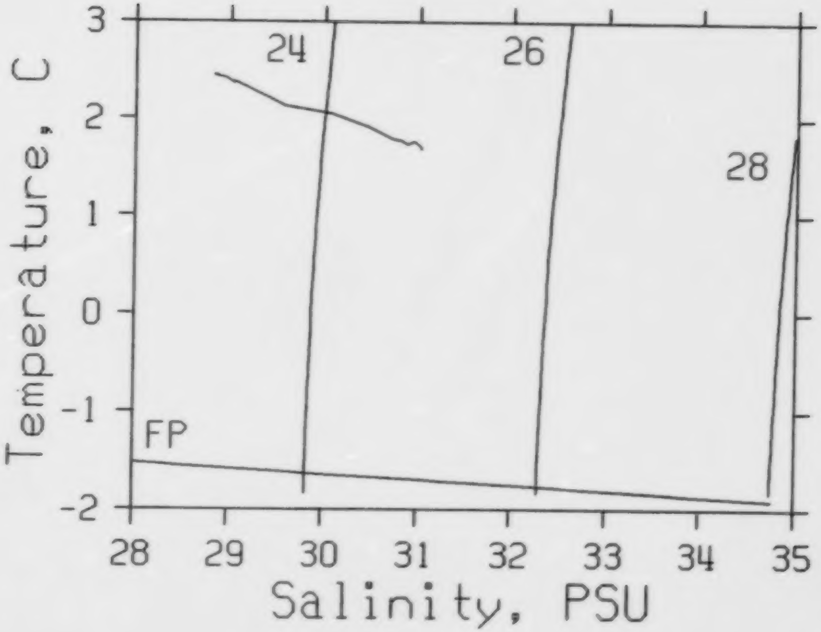
REFERENCE NØ.: 90-70-031

DATE/TIME : 14/09/90 17:20 UTC

PØSITIØN : 70- 1.4N 133-24.4W

PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	2.451	2.451	28.865	23.06	482.6	.00	.00	1452
10	10	2.130	2.129	29.579	23.65	426.0	.47	.02	1452
20	20	1.745	1.744	30.857	24.70	326.1	.82	.08	1452
30	30	1.689	1.687	31.112	24.90	306.3	1.13	.16	1452





NOGAP DATA REPORT

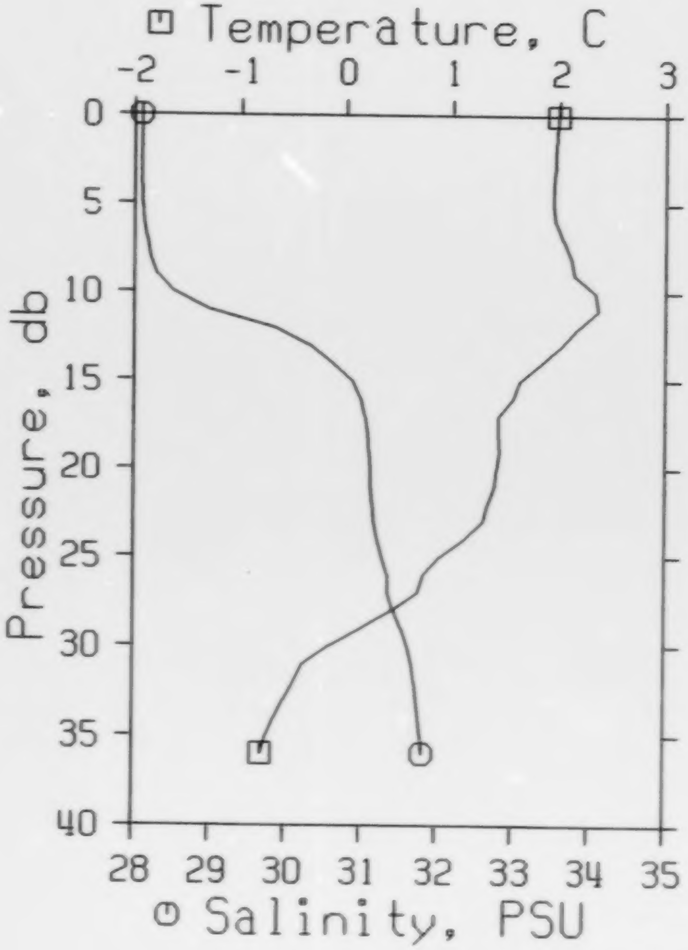
STATION : L024

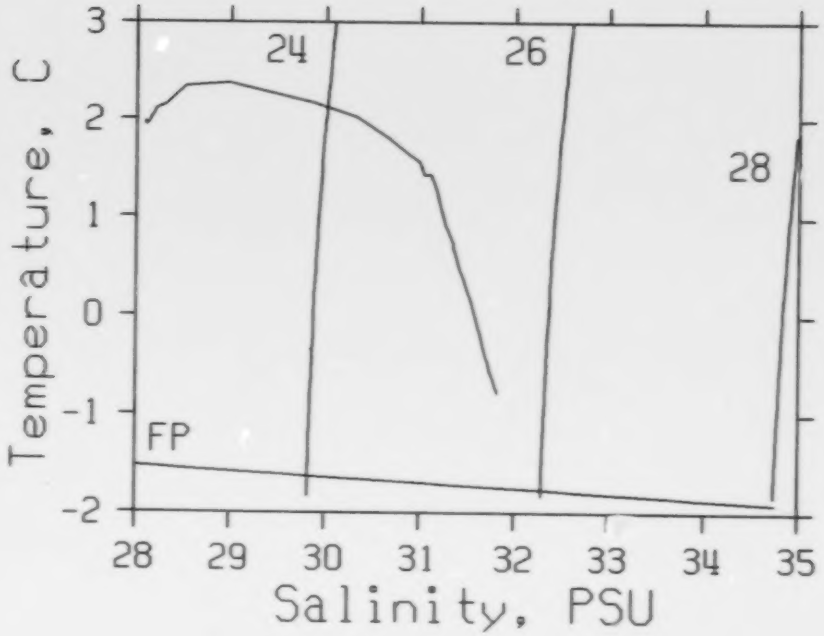
REFERENCE NO.: 90-70-032

DATE/TIME : 14/09/90 19:05 UTC

POSITION : 70- 8.4N 133-26.0W

PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	1.987	1.987	28.097	22.47	538.4	.00	.00	1449
10	10	2.343	2.343	28.523	22.79	508.0	.53	.03	1451
20	20	1.426	1.425	31.120	24.93	304.1	.89	.08	1451
30	30	-.141	-.142	31.622	25.41	258.1	1.18	.15	1444
36	36	-.791	-.792	31.824	25.60	240.2	1.32	.20	1442





NØGAP DATA REPØRT

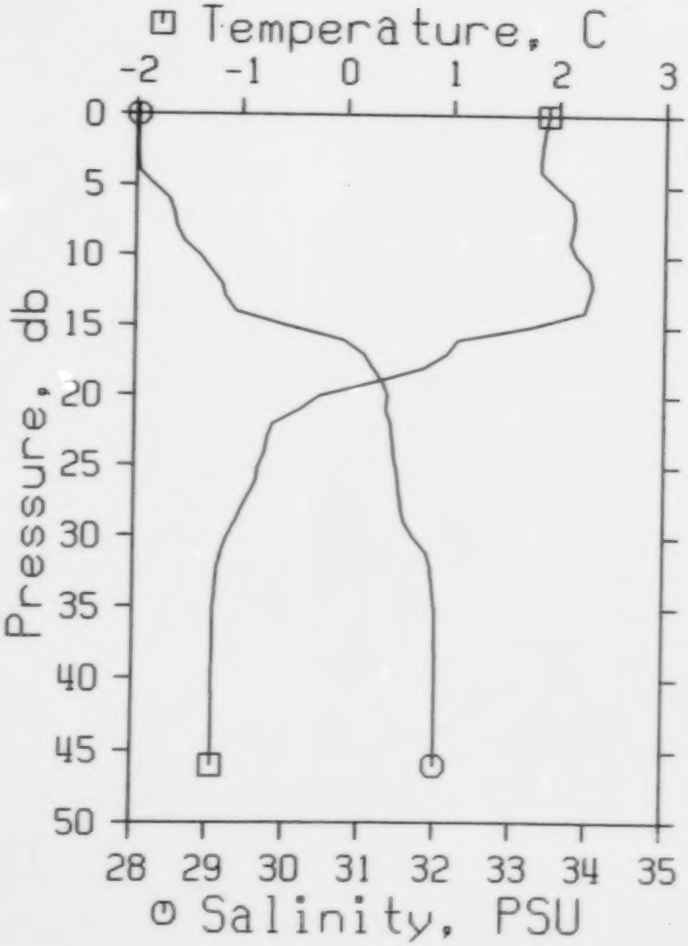
STATIØN : L025

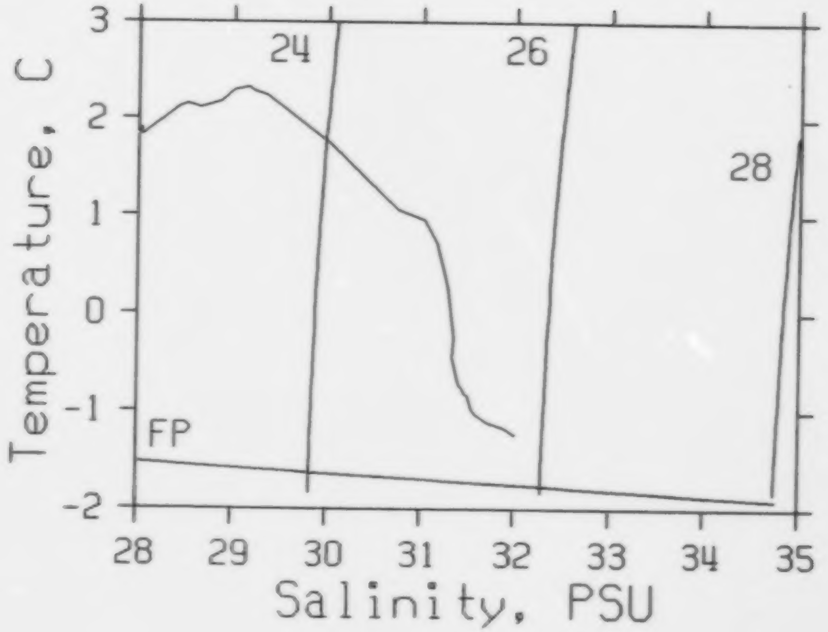
REFERENCE NØ.: 90-70-033

DATE/TIME : 14/09/90 20:48 UTC

PØSITIØN : 70-12.8N 133-33.6W

PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	1.898	1.898	28.033	22.43	542.8	.00	.00	1449
10	10	2.173	2.173	28.866	23.08	480.8	.52	.03	1451
20	20	-.252	-.252	31.356	25.20	278.1	.90	.08	1443
30	30	-1.110	-1.111	31.713	25.52	247.9	1.17	.15	1440
50	49	-1.236	-1.237	32.011	25.76	224.6	1.62	.33	1440





NØGAP DATA REPORT

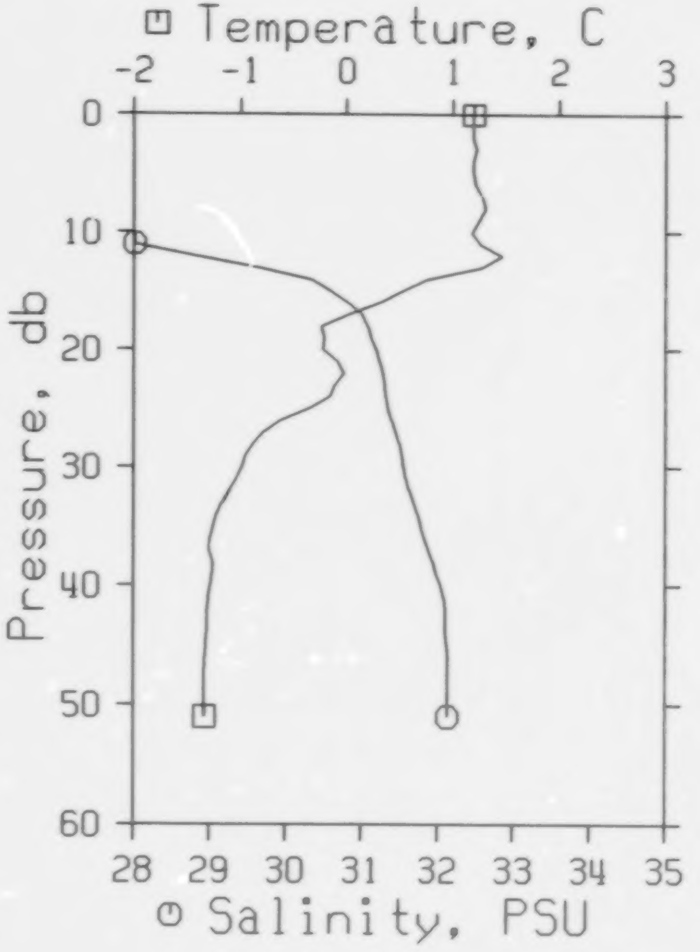
STATIØN : L026

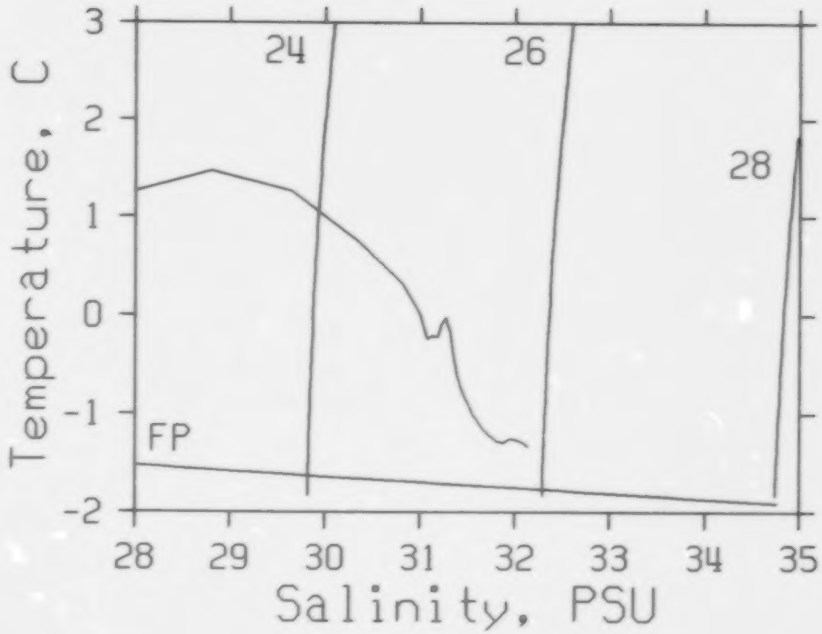
REFERENCE NØ.: 90-70-034

DATE/TIME : 14/09/90 22:57 UTC

PØSITIØN : 70-18.0N 133-40.2

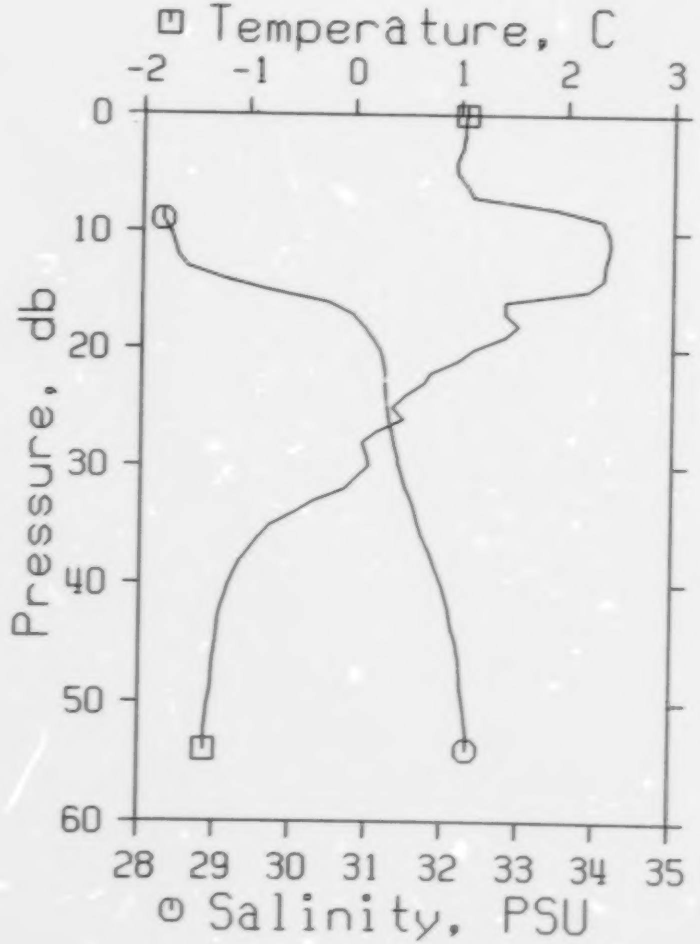
PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	1.195	1.195	27.594	22.11	573.0	.00	.00	1445
10	10	1.180	1.179	27.894	22.35	549.9	.56	.03	1445
20	20	-.221	-.221	31.191	25.07	290.9	.94	.08	1443
30	30	-.984	-.985	31.551	25.38	260.7	1.22	.15	1440
50	49	-1.334	-1.335	32.136	25.87	214.7	1.68	.34	1440
51	50	-1.335	-1.334	32.134	25.87	214.9	1.70	.35	1440

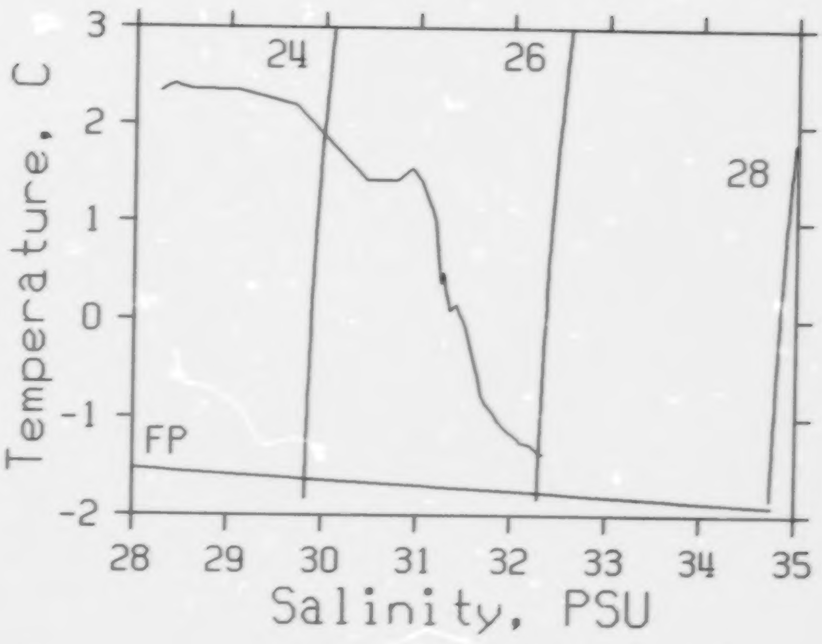




NOGAP DATA REPORT
STATION : L027
REFERENCE NO.: 90-70-035
DATE/TIME : 14/09/90 23:38 UTC
POSITION : 70-23.3N 133-46.1W

PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	1.053	1.053	27.514	22.05	578.5	.00	.00	1444
10	10	2.397	2.396	28.367	22.66	520.2	.57	.03	1451
20	20	1.147	1.147	31.143	24.96	300.8	.98	.09	1450
30	30	.150	.149	31.407	25.23	275.7	1.27	.16	1446
50	49	-1.340	-1.341	32.280	25.99	203.6	1.73	.35	1440
54	53	-1.375	-1.377	32.338	26.03	199.0	1.81	.39	1440





NOGAP DATA REPORT

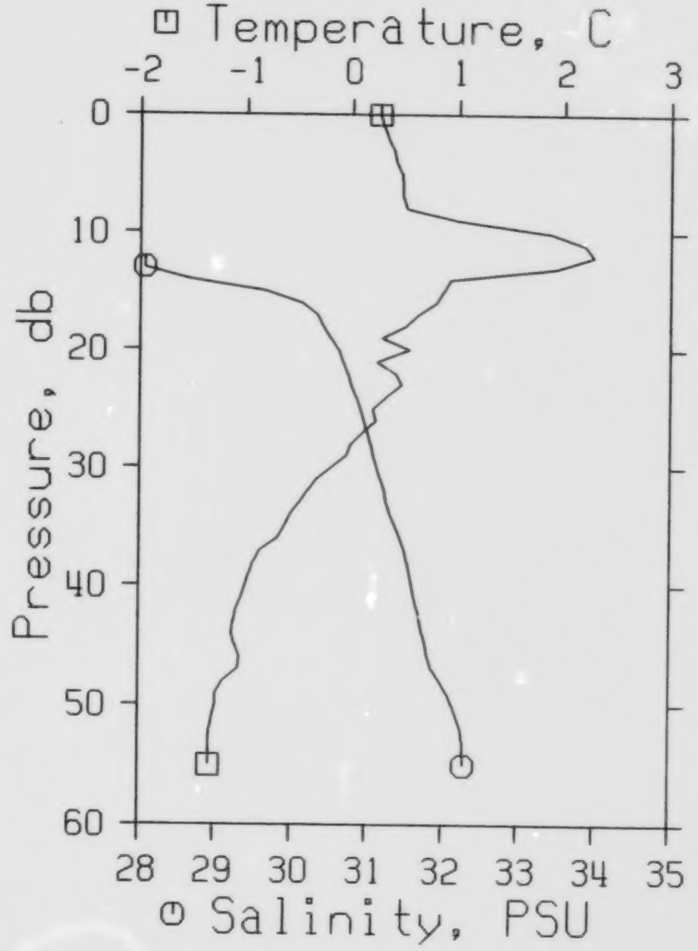
STATION : L028

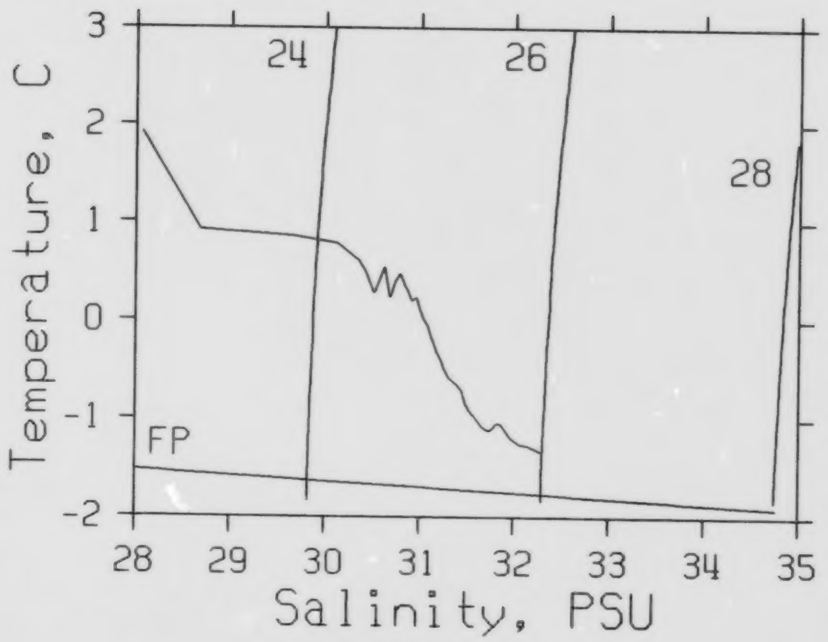
REFERENCE NO.: 90-70-036

DATE/TIME : 15/09/90 01:21 UTC

POSITION : 70-29.2 133-53.3W

PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	.260	.260	27.125	21.77	605.5	.00	.00	1440
10	10	1.870	1.869	27.693	22.16	568.7	.60	.03	1448
20	20	.541	.540	30.626	24.58	337.4	1.04	.10	1446
30	30	-.191	-.192	31.133	25.02	295.5	1.36	.18	1444
50	49	-1.268	-1.269	32.140	25.87	214.6	1.87	.38	1440
55	54	-1.332	-1.333	32.286	25.99	203.2	1.98	.44	1440





NØGAP DATA REPØRT

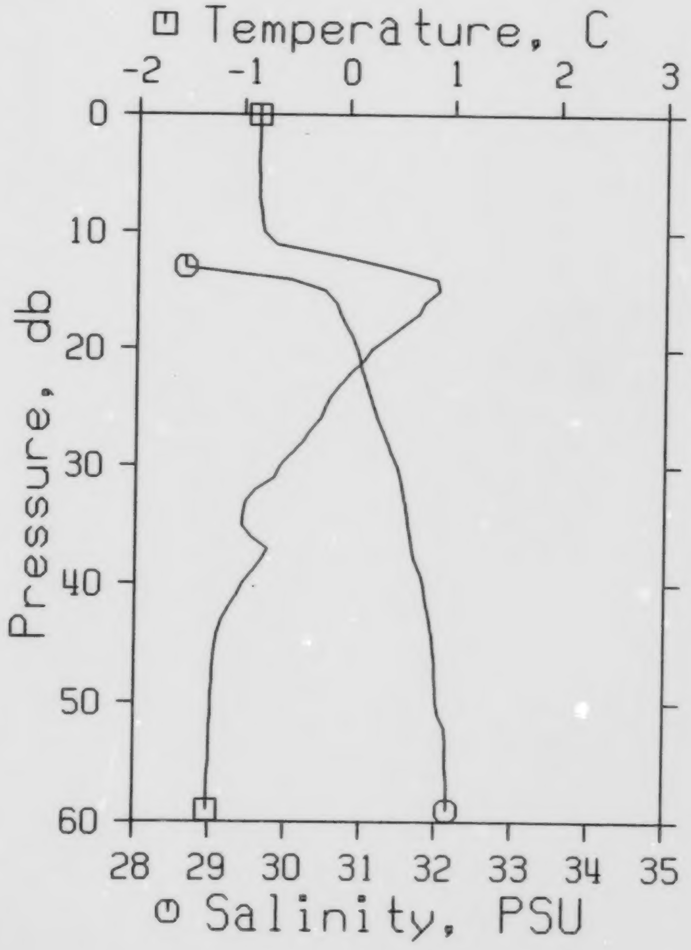
STATIØN : L029

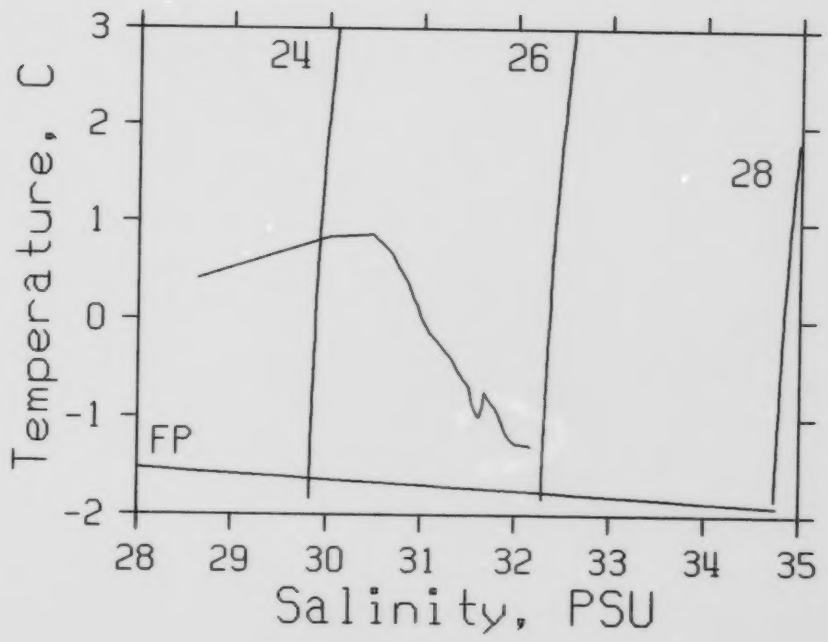
REFERENCE NØ.: 90-70-037

DATE/TIME : 15/09/90 14:17 UTC

PØSITIØN : 70-33.6N 133-59.2W

PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	-.853	-.853	26.888	21.61	621.3	.00	.00	1434
10	10	-.798	-.798	26.943	21.65	617.1	.62	.03	1435
20	20	.229	.229	30.918	24.83	313.6	1.04	.09	1445
30	30	-.634	-.635	31.461	25.30	268.7	1.33	.17	1442
50	49	-1.274	-1.275	32.010	25.76	224.6	1.82	.36	1440
59	58	-1.302	-1.303	32.169	25.89	212.3	2.01	.47	1440





NØGAP DATA REPORT

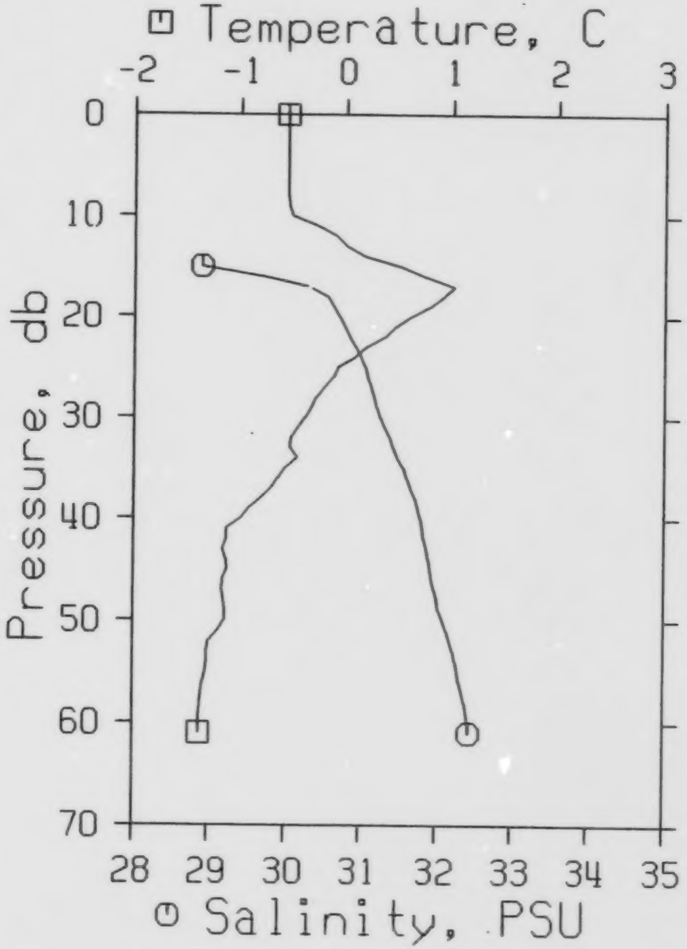
STATIØN : L030

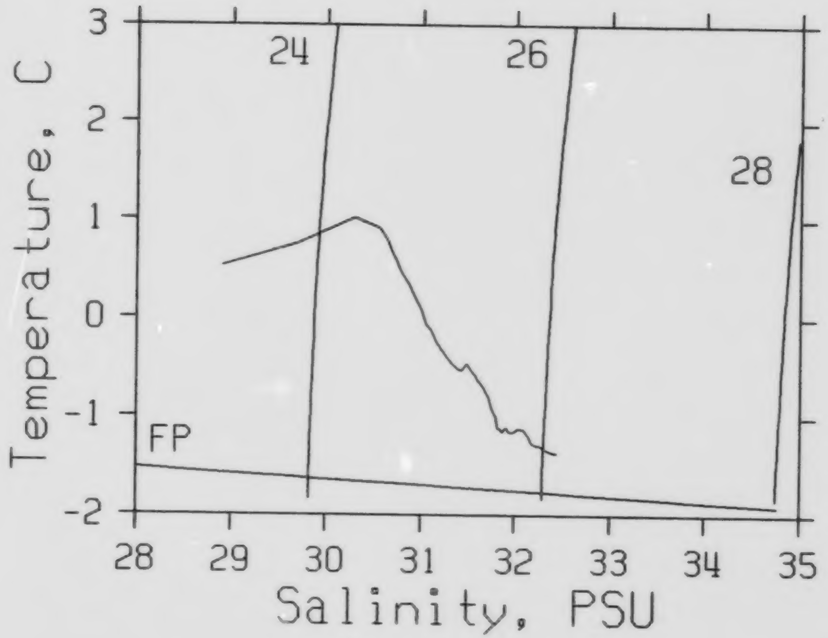
REFERENCE NØ.: 90-70-038

DATE/TIME : 15/09/90 16:29 UTC

PØSITIØN : 70-39.3N 133-59.1W

PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	-.560	-.560	26.931	21.64	618.5	.00	.00	1436
10	10	-.510	-.510	26.981	21.67	614.7	.62	.03	1436
20	20	.614	.613	30.717	24.65	330.7	1.09	.10	1447
30	30	-.389	-.390	31.262	25.13	284.8	1.40	.18	1443
50	49	-1.132	-1.133	32.090	25.83	218.8	1.89	.38	1441
61	60	-1.371	-1.372	32.438	26.11	191.4	2.11	.50	1440





NOGAP DATA REPORT

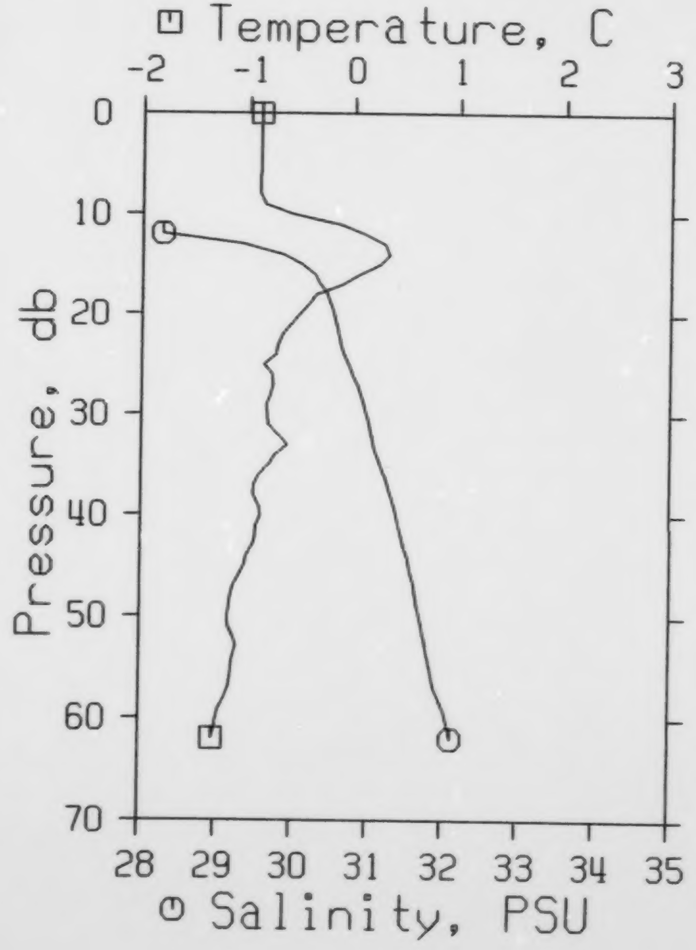
STATION : L031

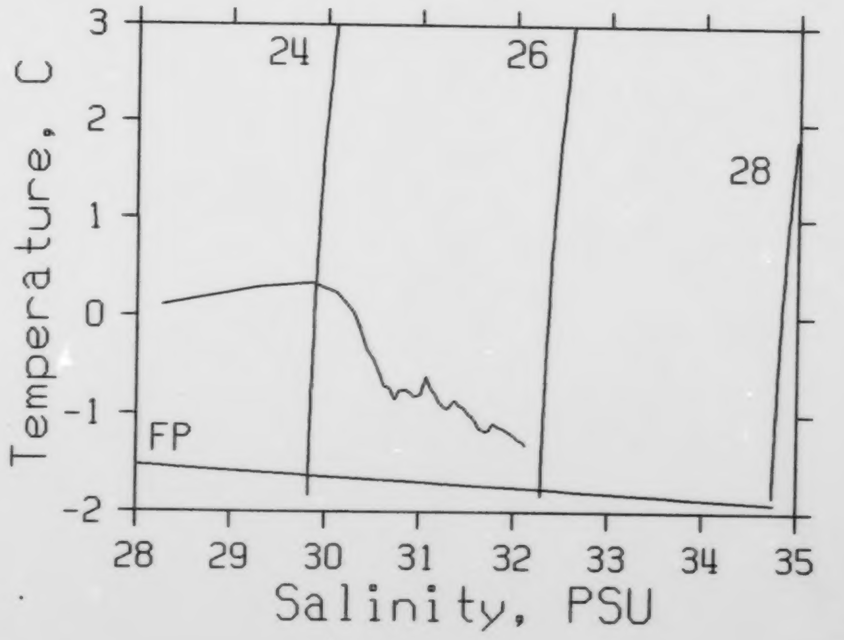
REFERENCE NO.: 90-70-039

DATE/TIME : 15/09/90 17:30 UTC

POSITION : 70-44.3N 134-12.5W

PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	-.888	-.888	26.736	21.48	633.0	.00	.00	1434
10	10	-.579	-.579	27.222	21.87	595.8	.63	.03	1436
20	20	-.510	-.510	30.542	24.55	339.8	1.05	.09	1441
30	30	-.807	-.808	30.982	24.92	305.1	1.37	.18	1440
50	49	-1.177	-1.178	31.695	25.51	249.1	1.92	.40	1440
62	61	-1.316	-1.318	32.128	25.86	215.4	2.20	.56	1440





NØGAP DATA REPØRT

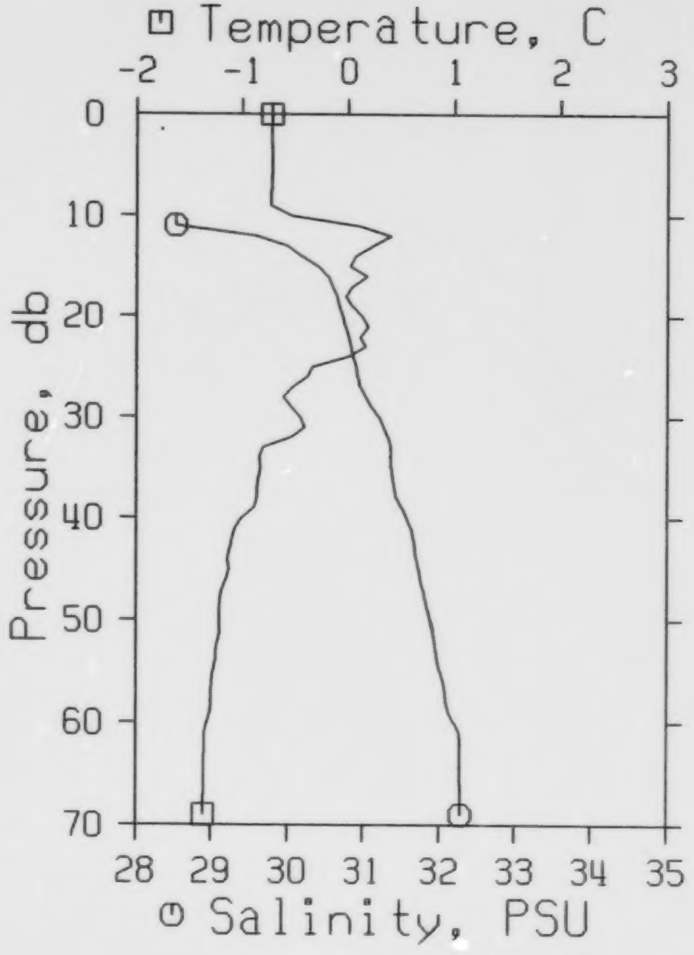
STATIØN : L032

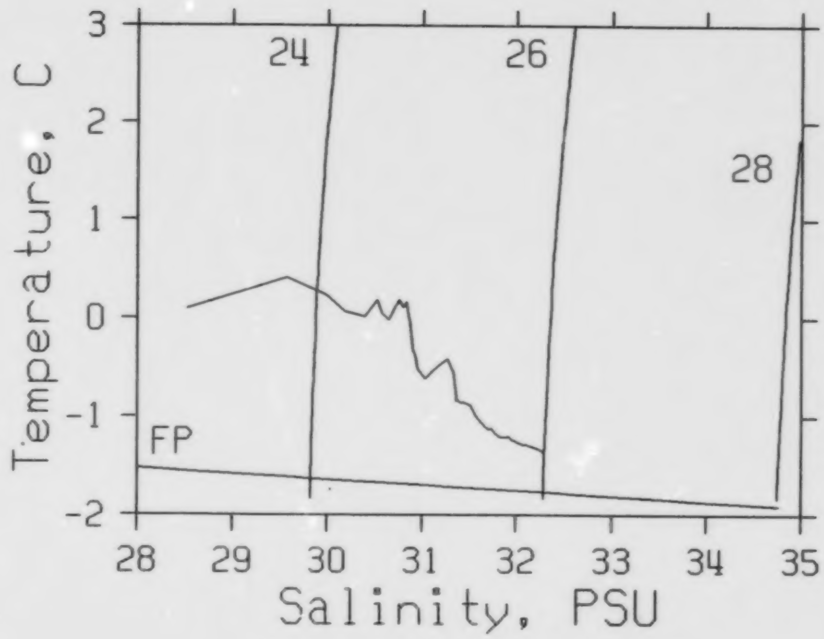
REFERENCE NØ.: 90-70-040

DATE/TIME : 15/09/90 18:19 UTC

PØSITIØN : 70-49.2N 134-18.0

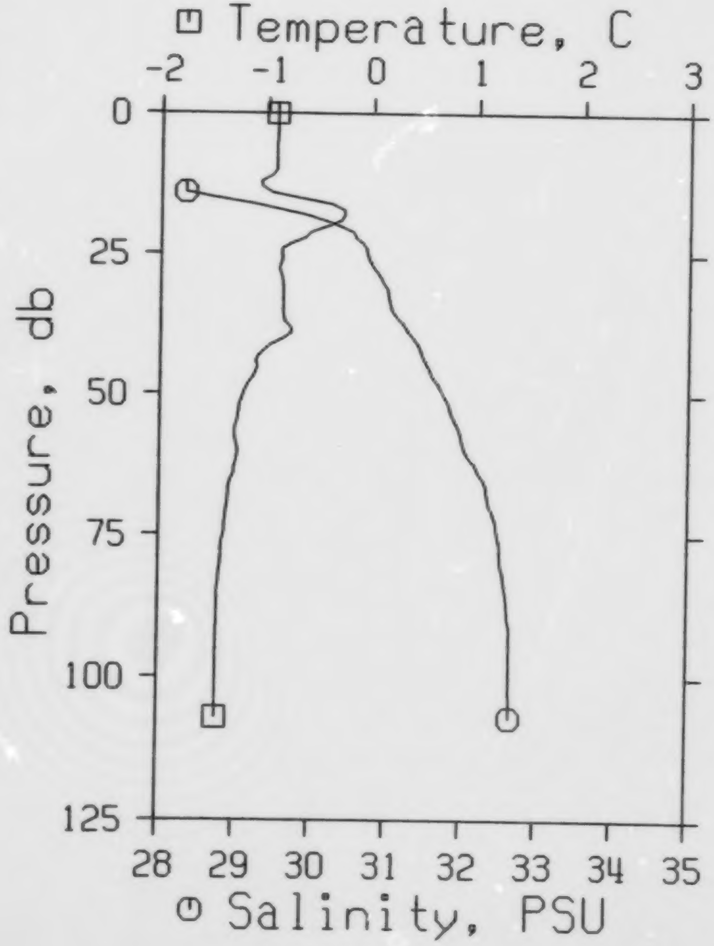
PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	-.720	-.720	26.762	21.50	631.2	.00	.00	1435
10	10	-.541	-.541	27.215	21.86	596.5	.63	.03	1436
20	20	.129	.129	30.727	24.68	327.9	1.01	.09	1444
30	30	-.453	-.454	31.217	25.10	288.0	1.32	.17	1442
50	49	-1.208	-1.209	31.884	25.66	234.4	1.84	.38	1440
75	74	-1.378	-1.380	32.331	26.03	199.6	2.37	.71	1440

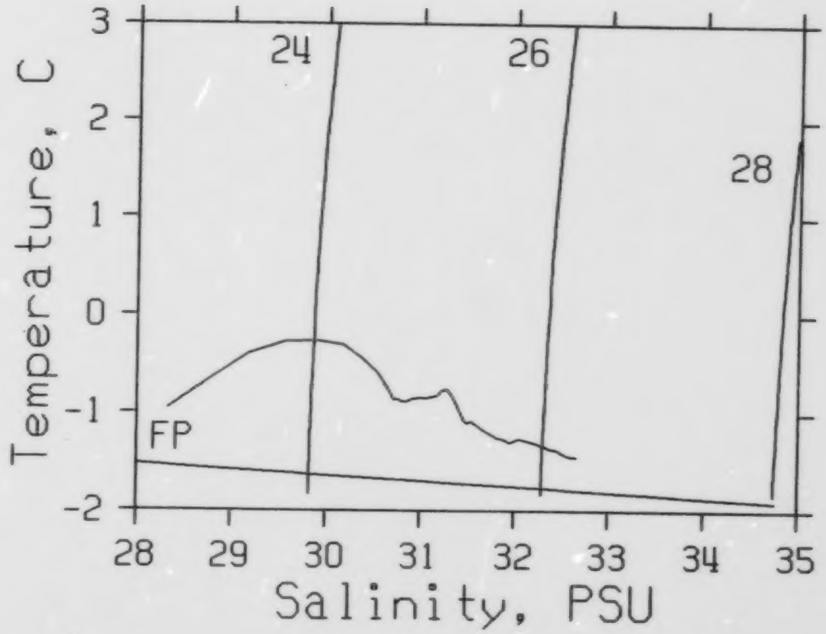




NØGAP DATA REPØRT
STATIØN : L033
REFERENCE NØ.: 90-70-041
DATE/TIME : 15/09/90 20:10 UTC
PØSITIØN : 70-55.7N 134-23.2W

PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	-.914	-.914	26.421	21.23	657.4	.00	.00	1433
10	10	-.918	-.918	26.567	21.35	646.1	.66	.03	1434
20	20	-.444	-.444	30.378	24.42	352.6	1.14	.10	1441
30	30	-.854	-.855	30.937	24.88	308.4	1.47	.19	1440
50	49	-1.219	-1.220	31.748	25.55	244.9	2.02	.41	1440
75	74	-1.394	-1.395	32.484	26.15	187.7	2.56	.75	1440
100	99	-1.452	-1.454	32.659	26.30	174.1	3.00	1.14	1441
107	106	-1.453	-1.455	32.661	26.30	174.0	3.12	1.27	1441





NØGAP DATA REPØRT

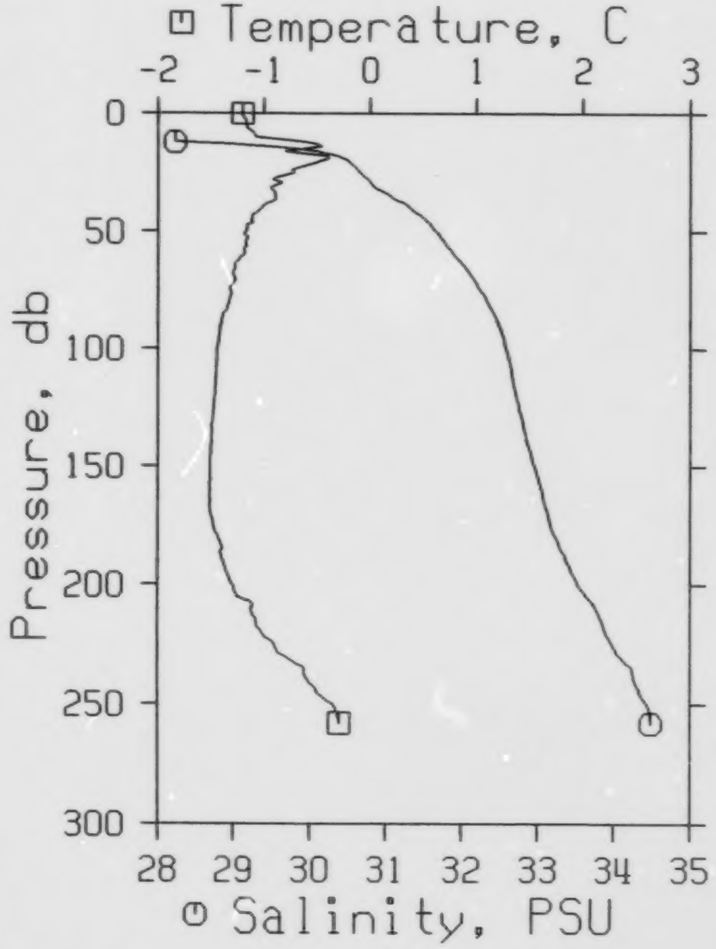
STATIØN : L034

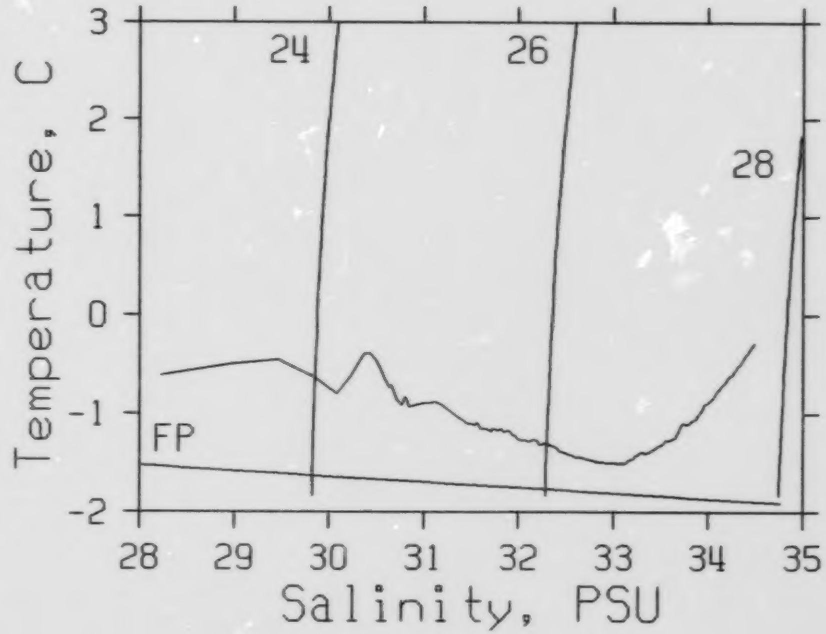
REFERENCE NØ.: 90-70-042

DATE/TIME : 15/09/90 21:09 UTC

PØSITIØN : 70-59.6N 134-31.2

PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	-1.197	-1.197	26.270	21.11	668.9	.00	.00	1432
10	10	-1.066	-1.066	26.792	21.53	628.4	.66	.03	1433
20	20	-.461	-.461	30.506	24.52	342.7	1.09	.10	1441
30	30	-.870	-.871	30.831	24.80	316.5	1.42	.18	1440
50	49	-1.169	-1.170	31.684	25.50	250.0	1.98	.41	1440
75	74	-1.313	-1.314	32.252	25.96	205.8	2.54	.76	1441
100	99	-1.436	-1.438	32.587	26.24	179.7	3.02	1.18	1441
125	124	-1.470	-1.472	32.760	26.38	166.3	3.45	1.68	1441
150	148	-1.502	-1.505	32.964	26.54	150.5	3.84	2.23	1442
175	173	-1.468	-1.472	33.177	26.72	134.2	4.19	2.81	1443
200	198	-1.293	-1.298	33.535	27.00	107.1	4.49	3.38	1444
250	247	-.355	-.364	34.442	27.70	40.9	4.85	4.18	1451
258	255	-.289	-.298	34.494	27.74	37.2	4.88	4.26	1451





NOGAP DATA REPORT

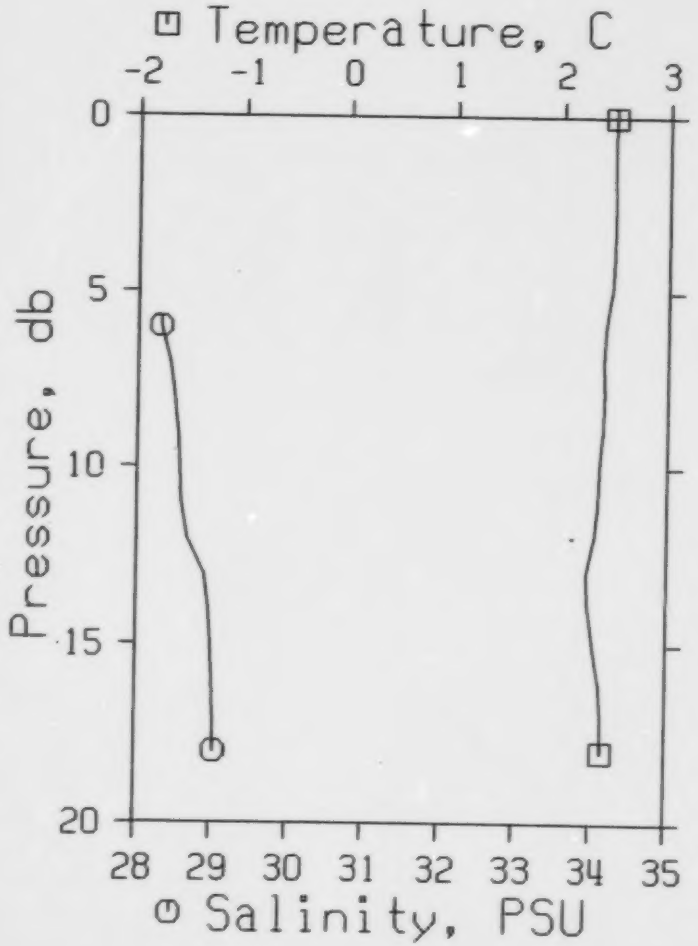
STATION : L035

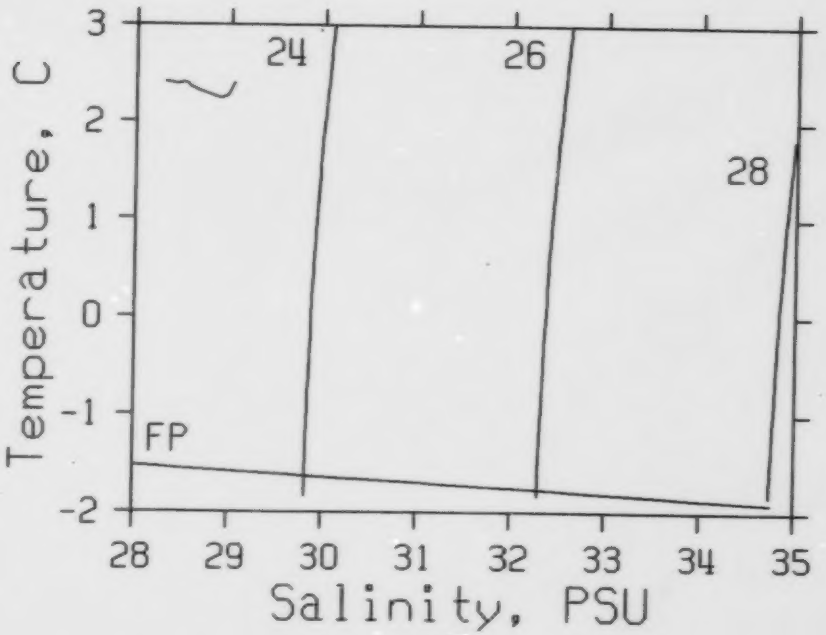
REFERENCE NO.: 90-70-043

DATE/TIME : 16/09/90 14:48 UTC

POSITION : 69- 8.0N 137-42.0

PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	2.490	2.490	27.836	22.23	561.4	.00	.00	1451
10	10	2.359	2.359	28.570	22.83	504.5	.54	.03	1451
20	20	2.356	2.355	29.262	23.38	451.7	1.01	.10	1452





NOGAP DATA REPORT

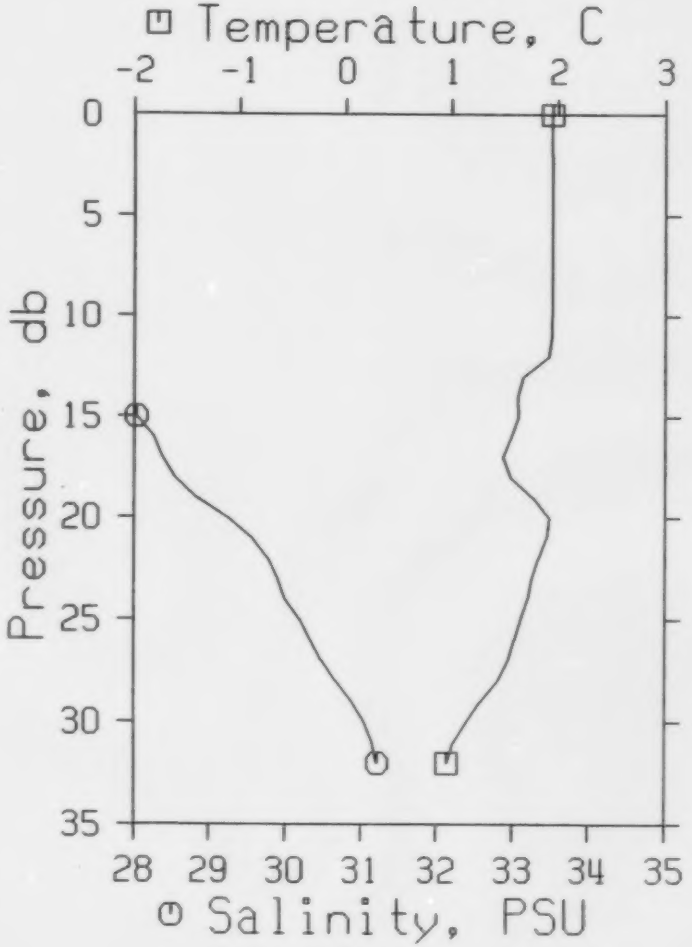
STATION : L036

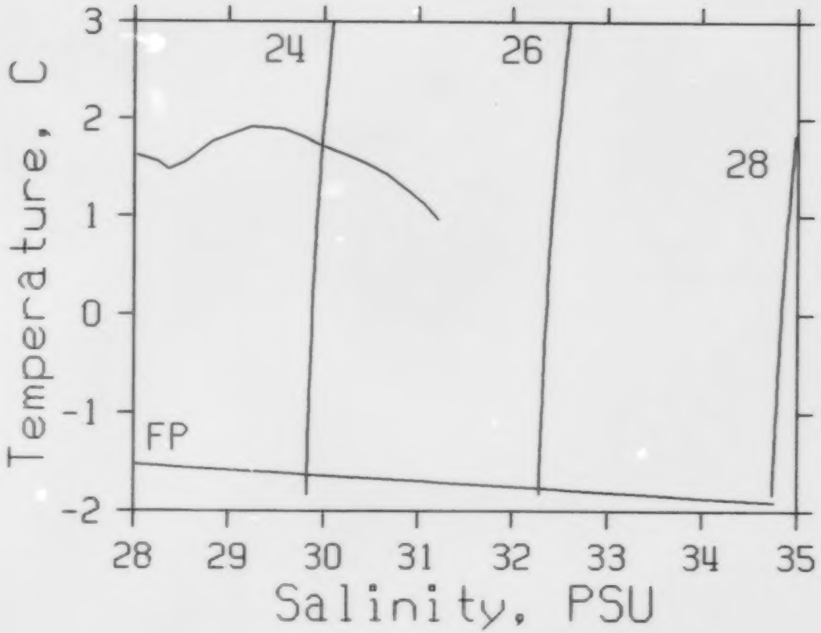
REFERENCE NO.: 90-70-044

DATE/TIME : 16/09/90 15:38 UTC

POSITION : 69-17.1N 137-52.0W

PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	1.945	1.945	26.488	21.19	661.4	.00	.00	1447
10	10	1.947	1.946	26.497	21.19	660.8	.66	.03	1447
20	20	1.919	1.919	29.239	23.39	450.7	1.23	.12	1451
30	30	1.142	1.141	31.044	24.88	308.4	1.60	.21	1450
32	32	.958	.957	31.220	25.03	293.9	1.66	.23	1449





NØGAP DATA REPØRT

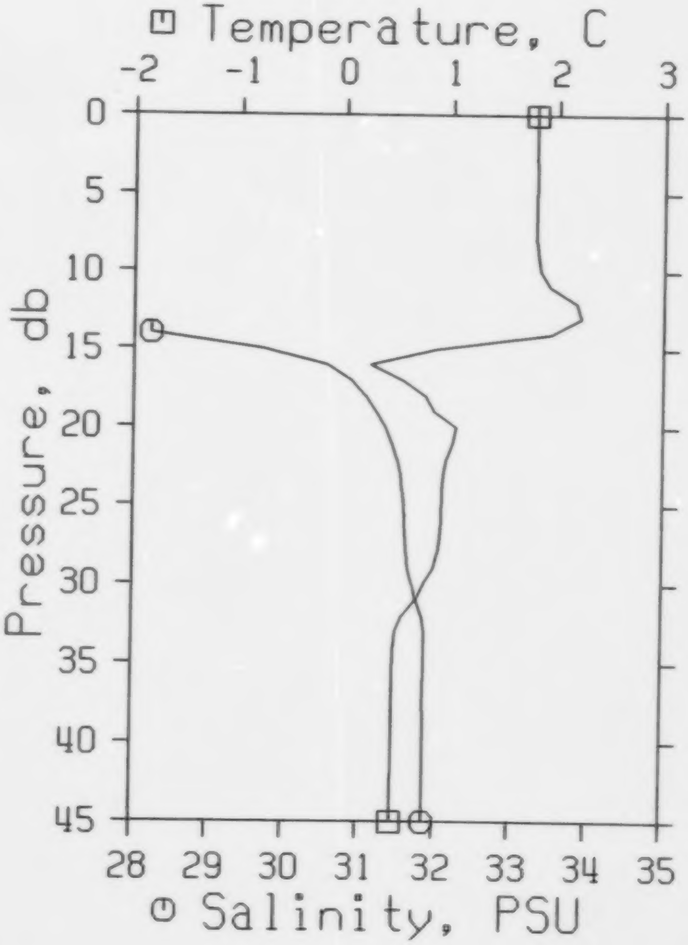
STATIØN : L037

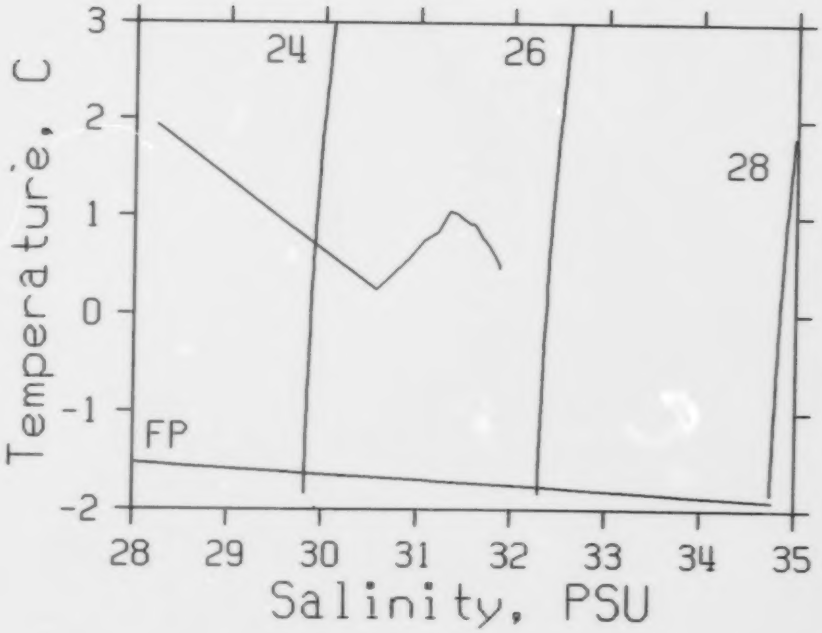
REFERENCE NØ.: 90-70-045

DATE/TIME : 16/09/90 16:49 UTC

PØSITIØN : 69-27.1N 137-41.9W

PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	1.793	1.793	26.358	21.09	670.7	.00	.00	1446
10	10	1.839	1.838	26.370	21.10	670.0	.67	.03	1446
20	20	1.052	1.051	31.343	25.13	285.0	1.13	.10	1449
30	30	.752	.751	31.709	25.44	255.4	1.40	.17	1449
50	49	.460	.459	31.870	25.58	241.6	1.88	.36	1448





NØGAP DATA REPØRT

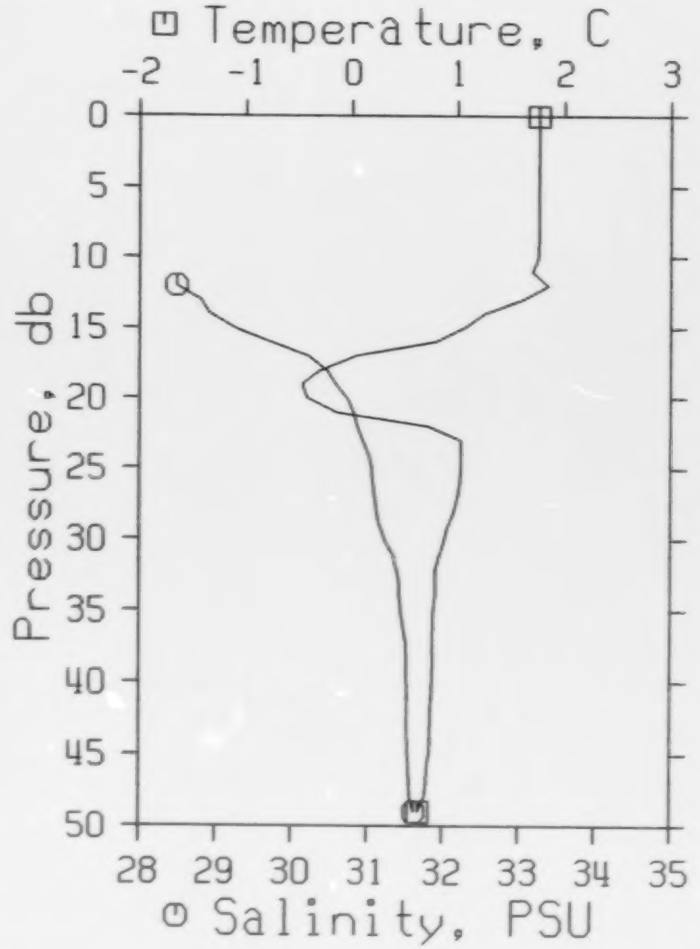
STATIØN : L038

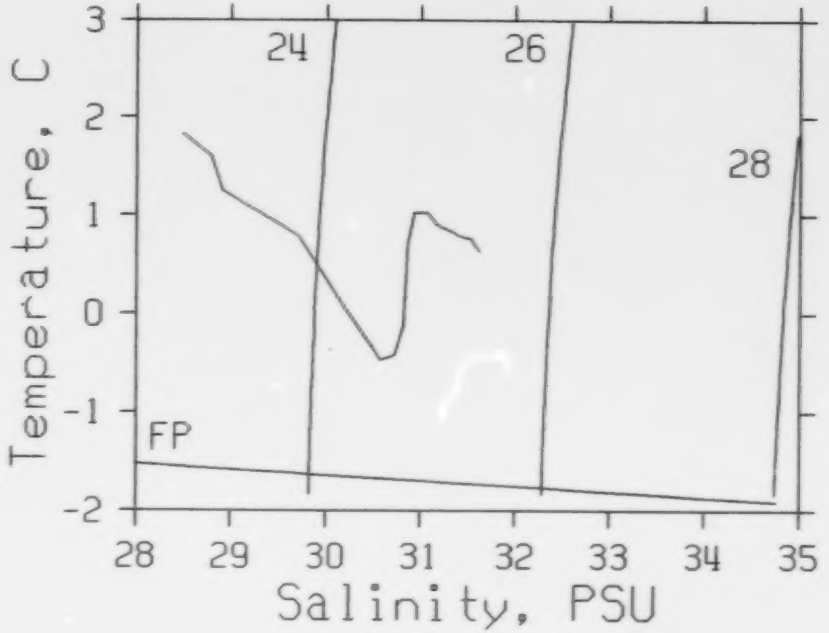
REFERENCE NØ.: 90-70-046

DATE/TIME : 16/09/90 17:32 UTC

PØSITIØN : 69-25.0N 138- .0W

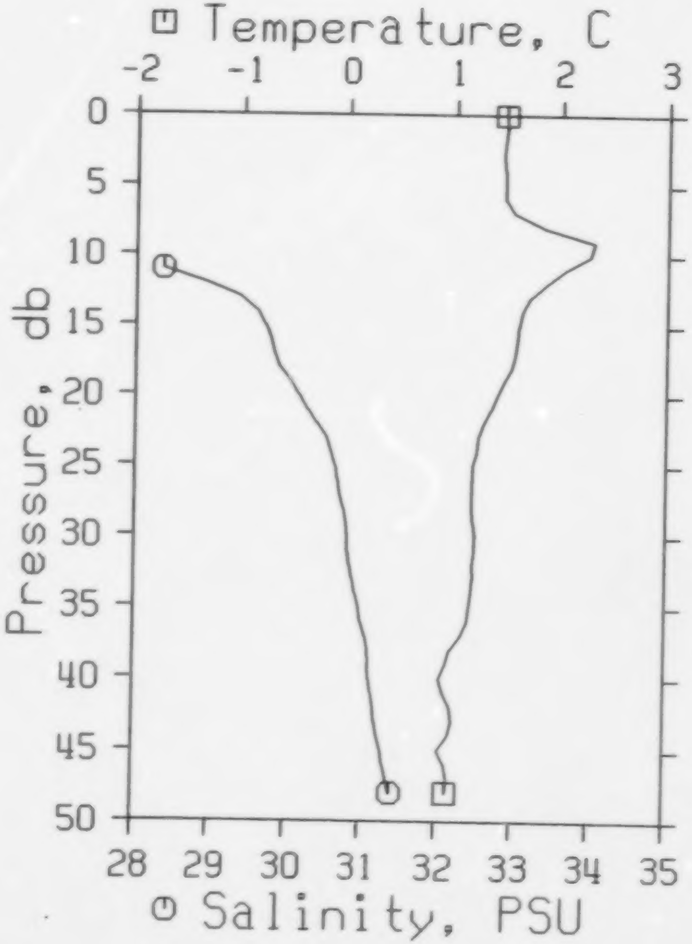
PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	1.759	1.759	26.638	21.32	649.0	.00	.00	1446
10	10	1.754	1.754	26.687	21.36	645.3	.65	.03	1446
20	20	-.424	-.424	30.731	24.70	325.5	1.09	.10	1442
30	30	.876	.875	31.234	25.05	292.4	1.40	.18	1449
50	49	.658	.656	31.602	25.36	263.1	1.94	.40	1448

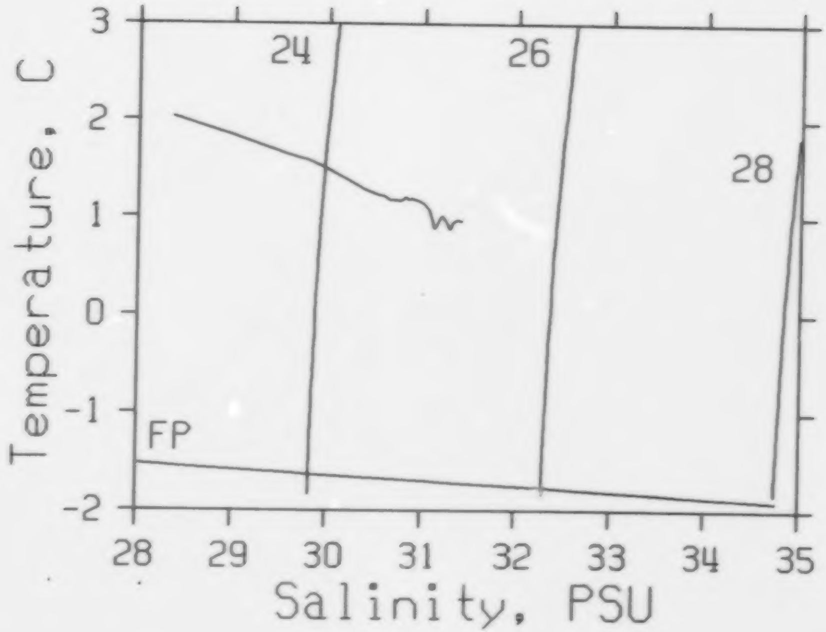




NOGAP DATA REPORT
STATION : L039
REFERENCE NO.: 90-70-047
DATE/TIME : 16/09/90 18:38 UTC
POSITION : 69-23.0N 138-10.2W

PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	1.467	1.467	25.789	20.65	712.9	.00	.00	1444
10	10	2.269	2.269	27.626	22.08	576.1	.69	.03	1450
20	20	1.407	1.407	30.161	24.16	377.3	1.12	.10	1449
30	30	1.208	1.207	30.814	24.69	326.3	1.47	.19	1450
50	49	.970	.968	31.467	25.23	275.1	2.07	.43	1450





NØGAP DATA REPØRT

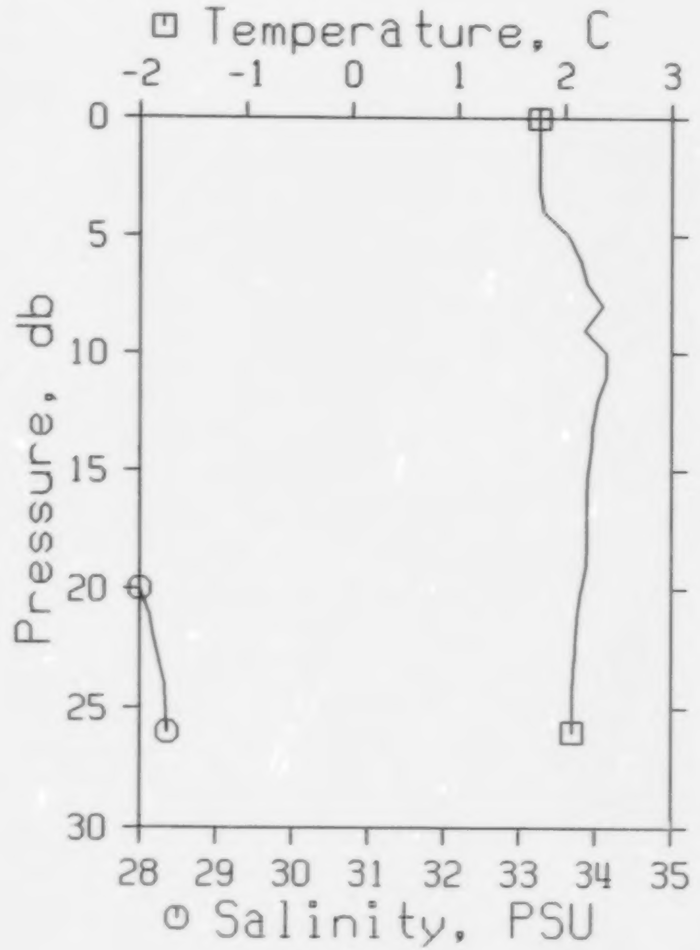
STATIØN : L040

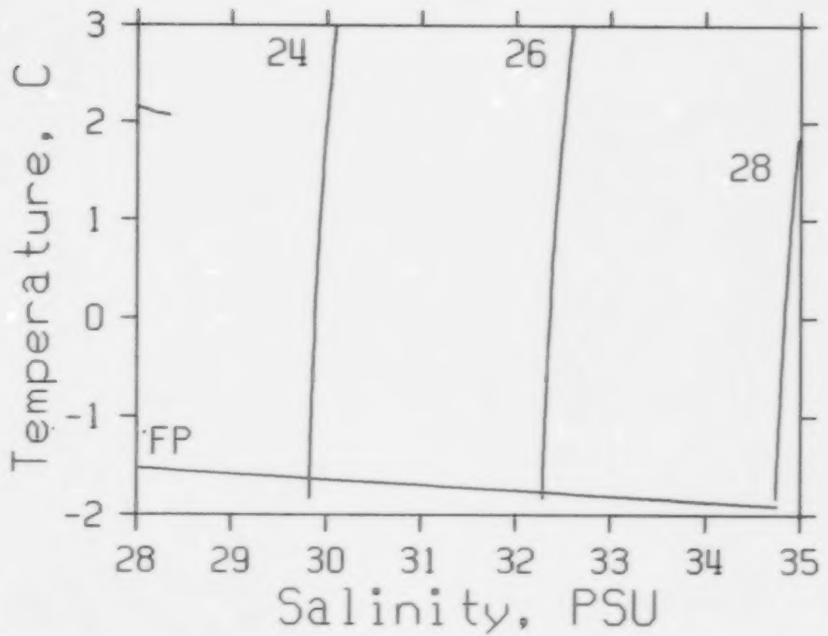
REFERENCE NØ.: 90-70-048

DATE/TIME : 16/09/90 19:11 UTC

PØSITIØN : 69-22.0N 138-22.1W

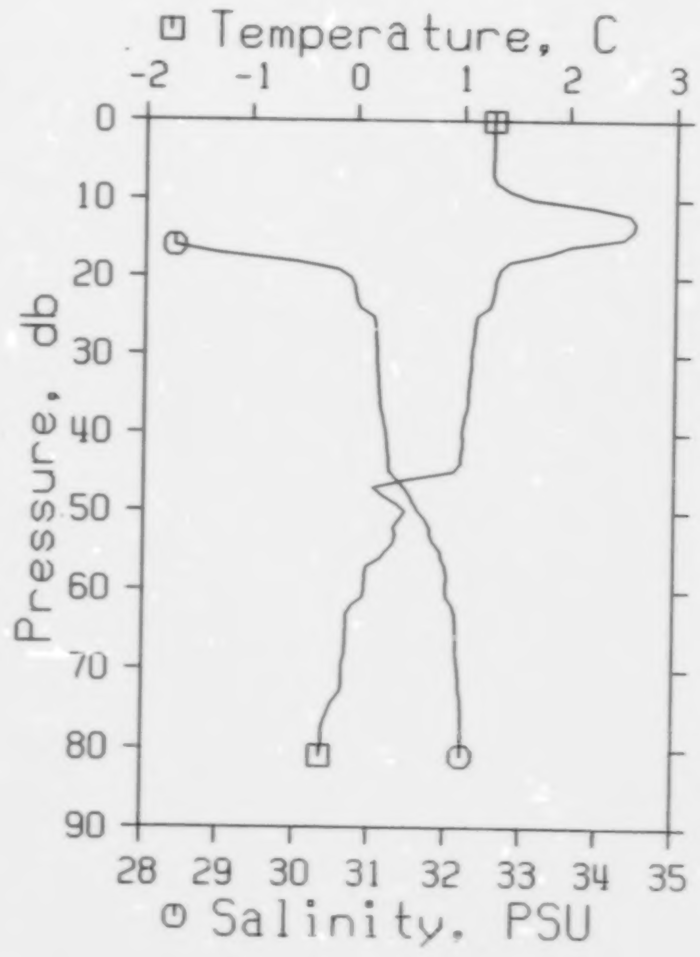
PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	1.759	1.759	25.044	20.04	771.5	.00	.00	1444
10	10	2.395	2.394	26.909	21.50	631.7	.73	.04	1449
20	20	2.158	2.157	28.006	22.39	546.4	1.31	.12	1450
26	26	2.067	2.066	28.359	22.68	518.8	1.62	.20	1450

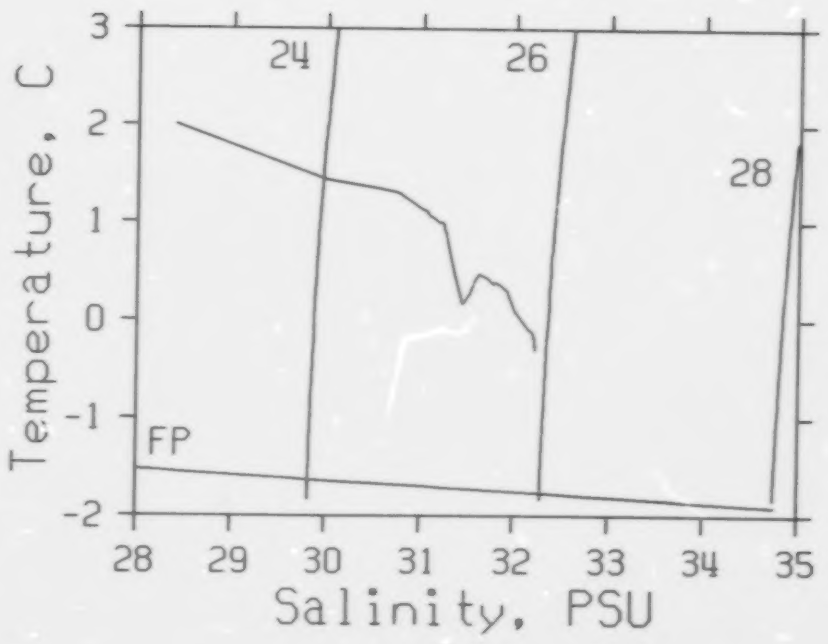




NOGAP DATA REPORT
STATION : L041
REFERENCE NO.: 90-70-049
DATE/TIME : 16/09/90 19:52 UTC
POSITION : 69-30.0N 138-17.9W

PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	1.281	1.281	24.562	19.68	806.6	.00	.00	1441
10	10	1.646	1.646	25.579	20.48	729.8	.80	.04	1444
20	20	1.317	1.317	30.716	24.61	334.4	1.35	.12	1450
30	30	1.087	1.086	31.079	24.91	305.4	1.67	.20	1449
50	49	.472	.470	31.626	25.39	260.4	2.25	.44	1448
75	74	-.229	-.231	32.218	25.90	212.0	2.82	.80	1446
81	80	-.313	-.316	32.222	25.90	211.3	2.94	.90	1445





NØGAP DATA REPØRT

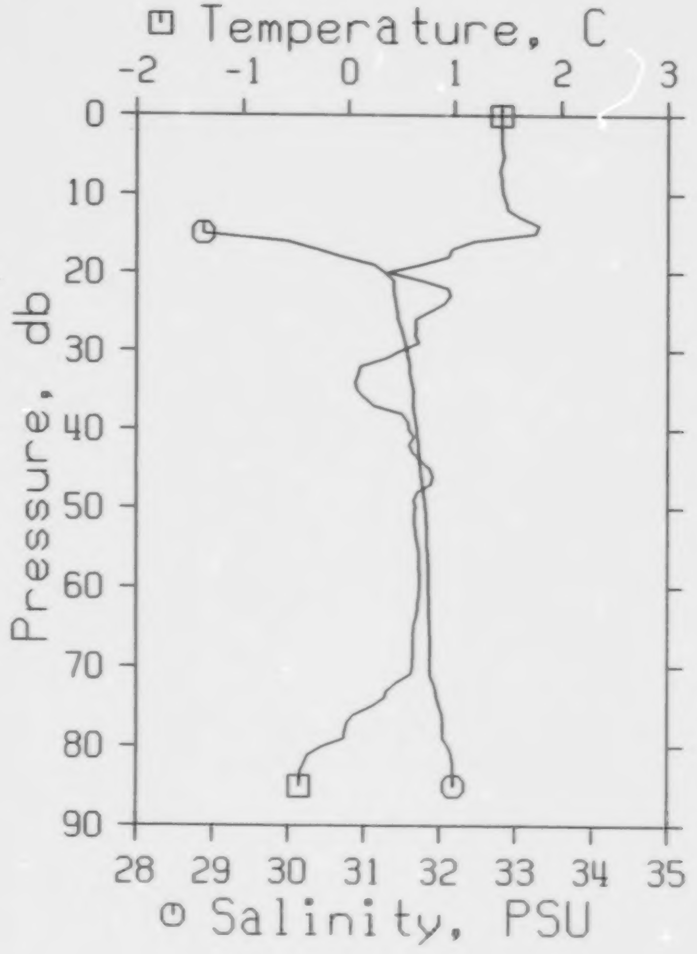
STATIØN : L042

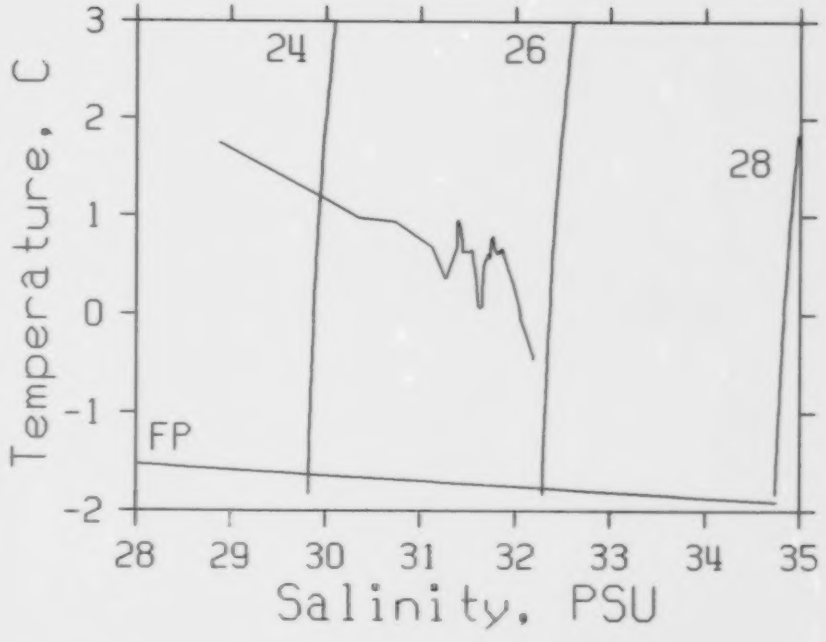
REFERENCE NØ.: 90-70-050

DATE/TIME : 16/09/90 20:29 UTC

PØSITIØN : 69-31.0N 138- 5.9W

PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	1.441	1.441	25.106	20.11	765.3	.00	.00	1443
10	10	1.459	1.458	25.837	20.69	709.1	.74	.04	1444
20	20	.362	.361	31.268	25.10	287.3	1.24	.11	1446
30	30	.490	.489	31.567	25.34	265.0	1.52	.18	1447
50	49	.633	.631	31.813	25.53	246.8	2.03	.39	1449
75	74	.228	.225	31.999	25.70	230.7	2.63	.77	1447
85	84	-.464	-.466	32.186	25.88	213.5	2.85	.95	1445





NOGAP DATA REPORT

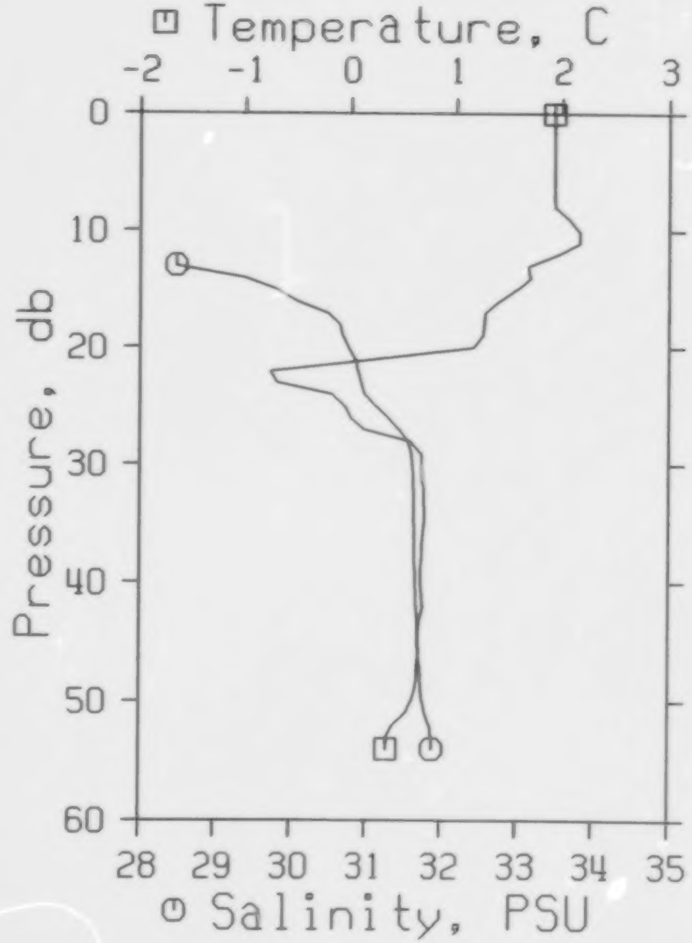
STATION : L043

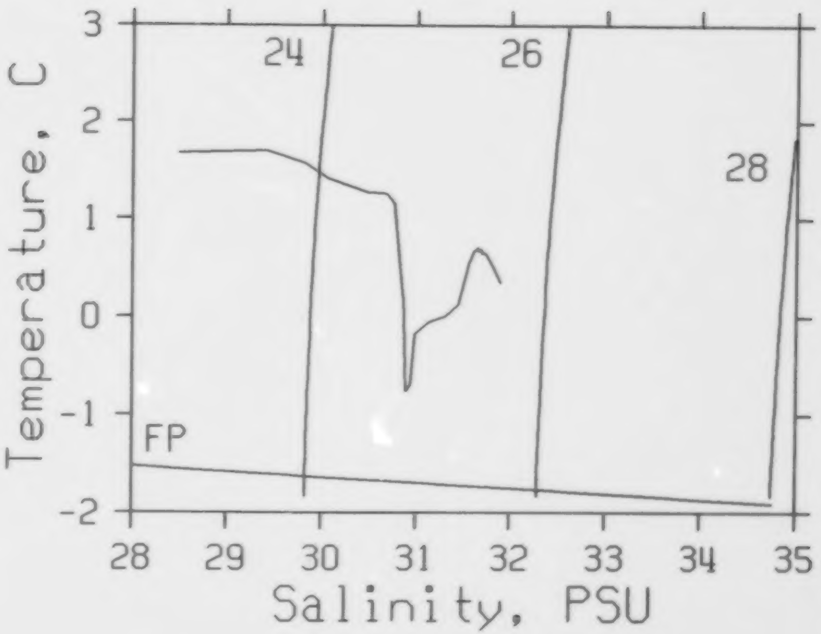
REFERENCE NO.: 90-70-051

DATE/TIME : 16/09/90 21:28 UTC

POSITION : 69-32.0 137-48.2W

PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	1.927	1.927	26.724	21.38	643.2	.00	.00	1447
10	10	2.164	2.164	27.212	21.75	607.2	.64	.03	1449
20	20	1.166	1.166	30.767	24.66	329.7	1.08	.10	1449
30	30	.675	.674	31.628	25.38	261.2	1.37	.17	1448
50	49	.583	.582	31.767	25.50	250.1	1.88	.38	1448
54	53	.345	.343	31.892	25.61	239.5	1.98	.43	1447





NOGAP DATA REPORT

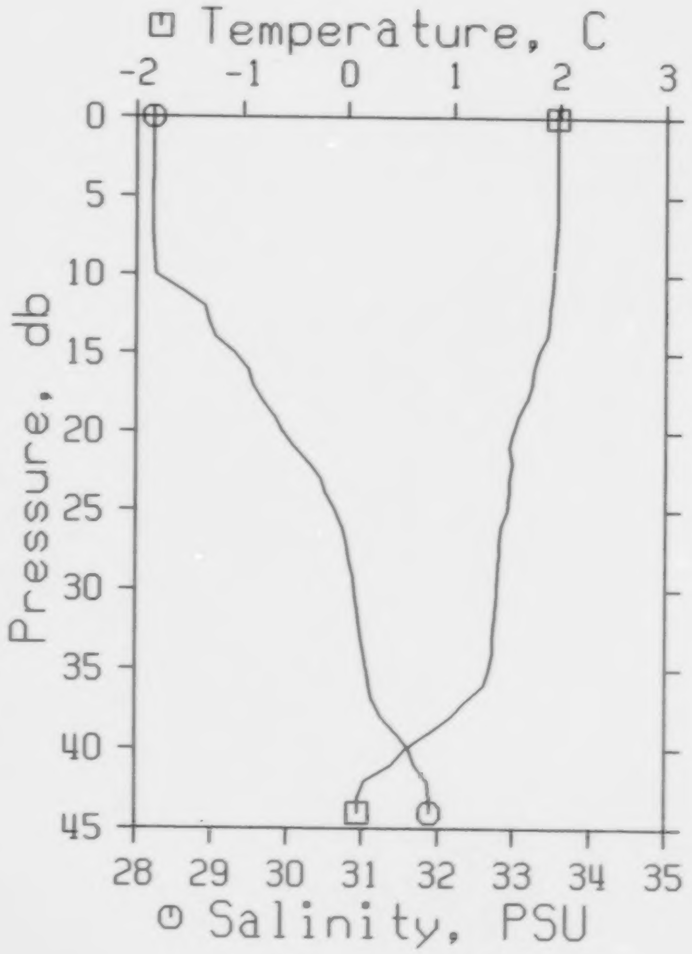
STATION : L044

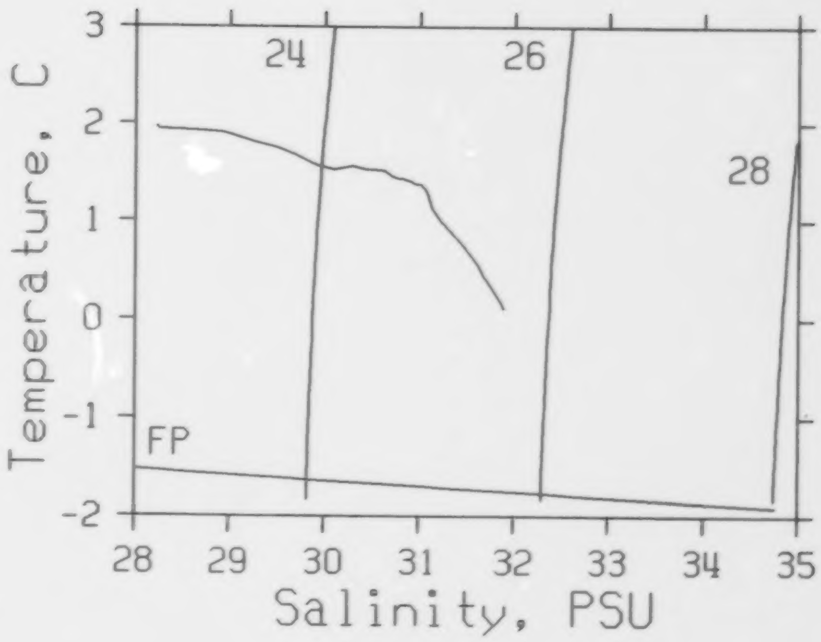
REFERENCE NO.: 90-70-052

DATE/TIME : 16/09/90 22:17 UTC

POSITION : 69-30.0N 137-21.7W

PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	1.974	1.974	28.232	22.58	528.0	.00	.00	1449
10	10	1.943	1.943	28.261	22.61	525.6	.53	.03	1449
20	20	1.568	1.567	29.943	23.98	394.9	.98	.09	1450
30	30	1.414	1.413	30.893	24.75	321.4	1.33	.18	1451
50	49	-.976	-.977	32.660	26.28	175.3	1.85	.39	1442





NOGAP DATA REPORT

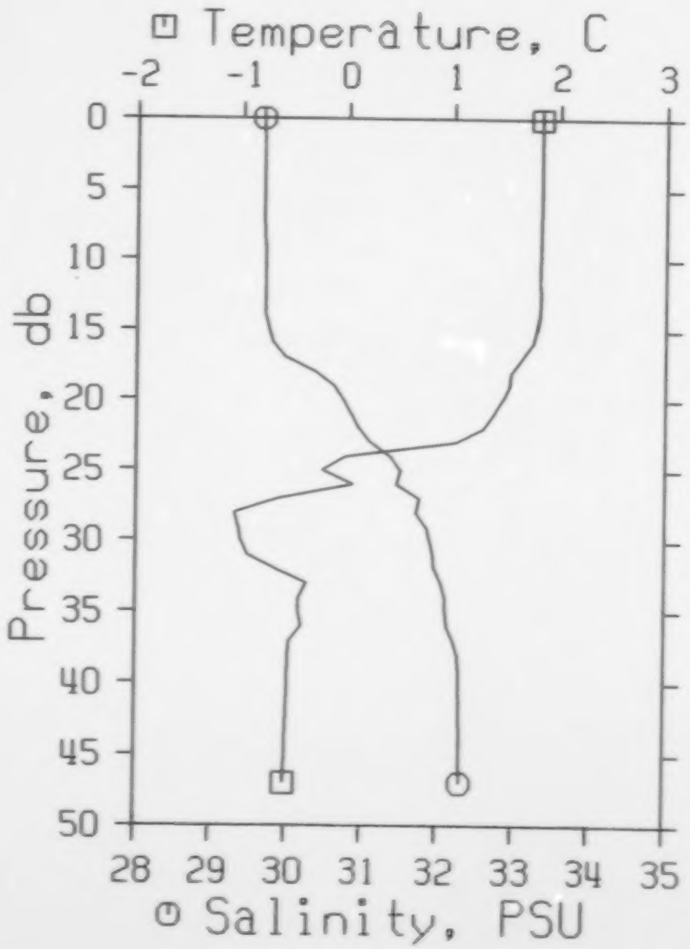
STATION : L045

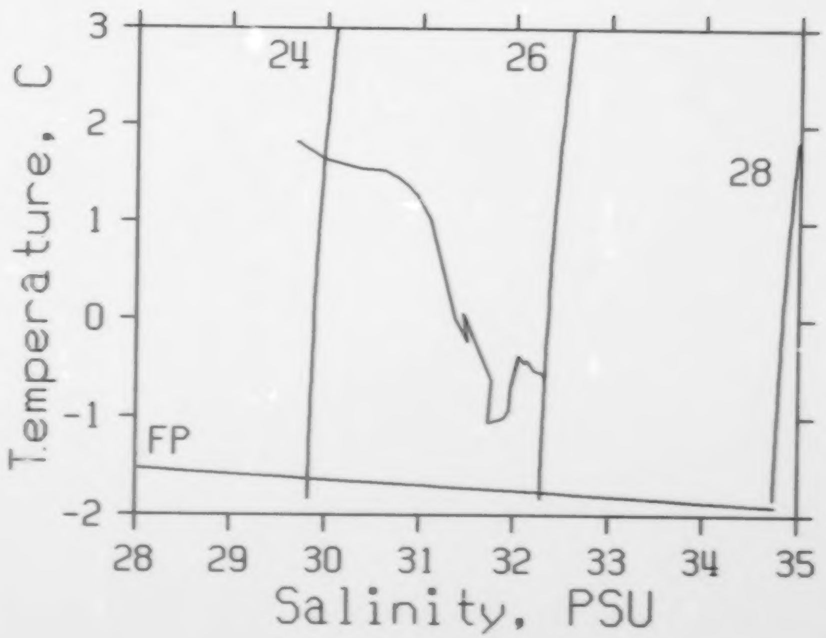
REFERENCE NO.: 90-70-053

DATE/TIME : 16/09/90 23:30 UTC

POSITION : 69-45.0N 137-14.9W

PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	1.827	1.827	29.680	23.75	416.5	.00	.00	1450
10	10	1.817	1.816	29.705	23.77	414.5	.42	.02	1450
20	20	1.463	1.463	30.746	24.63	333.0	.81	.08	1450
30	30	-.999	-1.000	31.905	25.67	233.4	1.09	.15	1441
50	49	-.593	-.594	32.333	26.00	201.7	1.51	.32	1444





NØGAP DATA REPORT

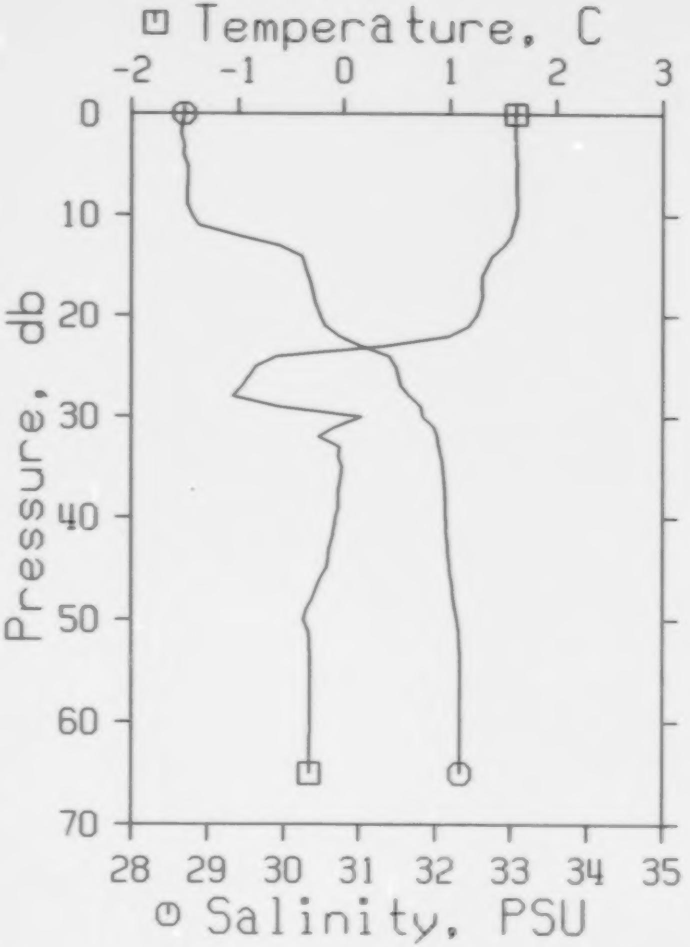
STATIØN : L046

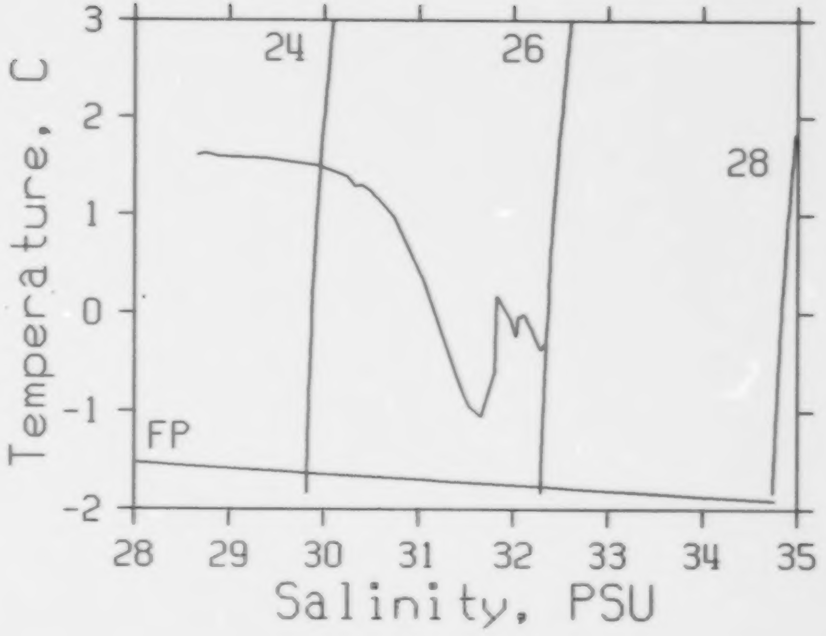
REFERENCE NØ.: 90-70-054

DATE/TIME : 17/09/90 00:30 UTC

PØSITIØN : 69-48.2N 137-37.8W

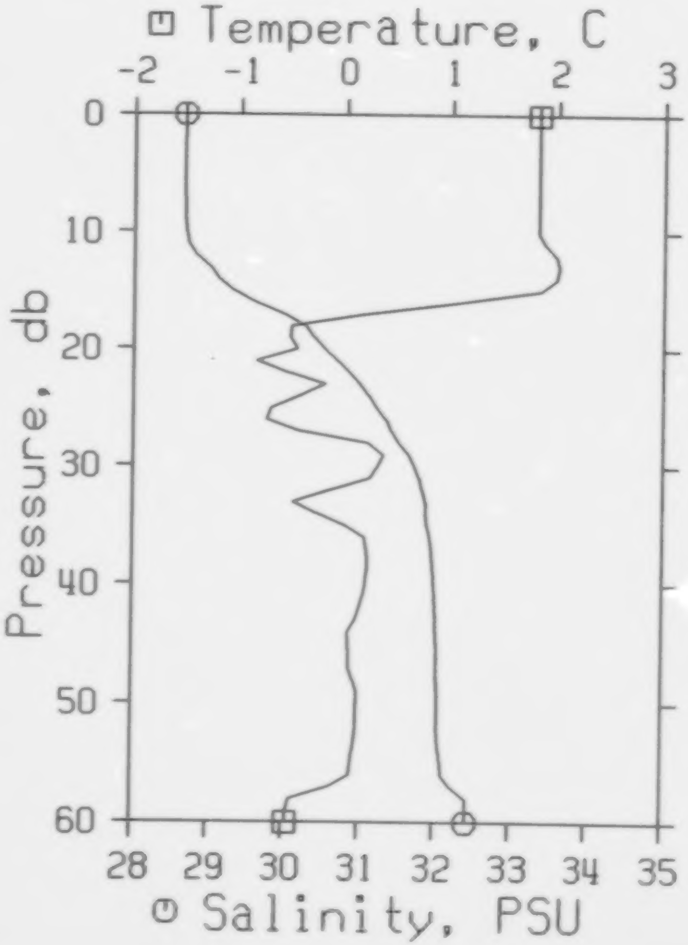
PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	1.619	1.619	28.700	22.98	490.3	.00	.00	1448
10	10	1.624	1.623	28.800	23.06	482.7	.49	.02	1448
20	20	1.246	1.245	30.489	24.43	351.4	.88	.08	1449
30	30	.169	.168	31.829	25.57	243.5	1.16	.15	1446
50	49	-.379	-.380	32.293	25.96	205.6	1.60	.33	1445
65	64	-.324	-.326	32.332	25.99	202.8	1.90	.51	1445

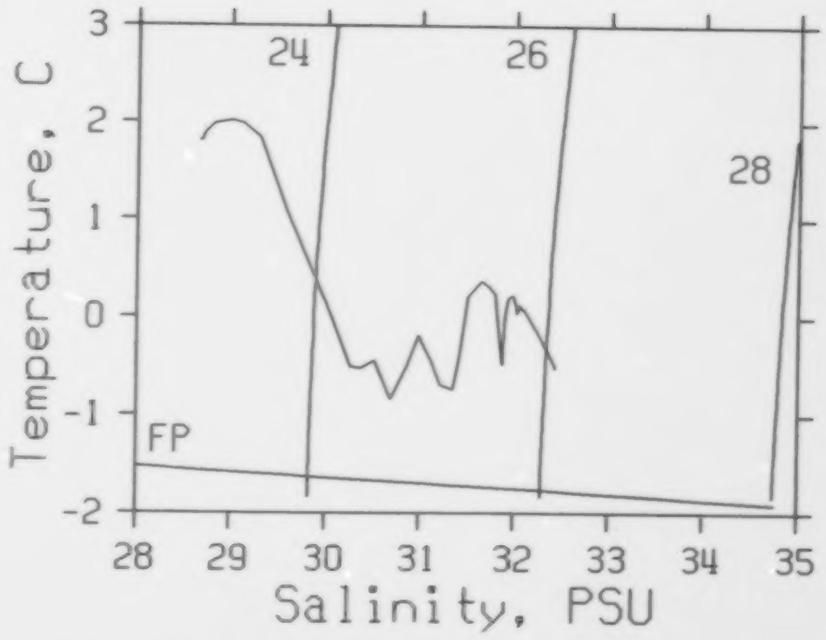




NOGAP DATA REPORT
STATION : L047
REFERENCE NO.: 90-70-055
DATE/TIME : 17/09/90 01:10 UTC
POSITION : 69-42.1N 137-38.0W

PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	1.814	1.814	28.665	22.94	494.0	.00	.00	1449
10	10	1.814	1.814	28.687	22.95	492.3	.49	.03	1449
20	20	-.451	-.451	30.521	24.53	341.6	.92	.09	1441
30	30	.310	.309	31.724	25.47	252.1	1.21	.16	1447
50	49	.122	.121	32.047	25.74	226.5	1.68	.35	1447
60	59	-.532	-.534	32.434	26.08	194.3	1.89	.47	1444





NØGAP DATA REPORT

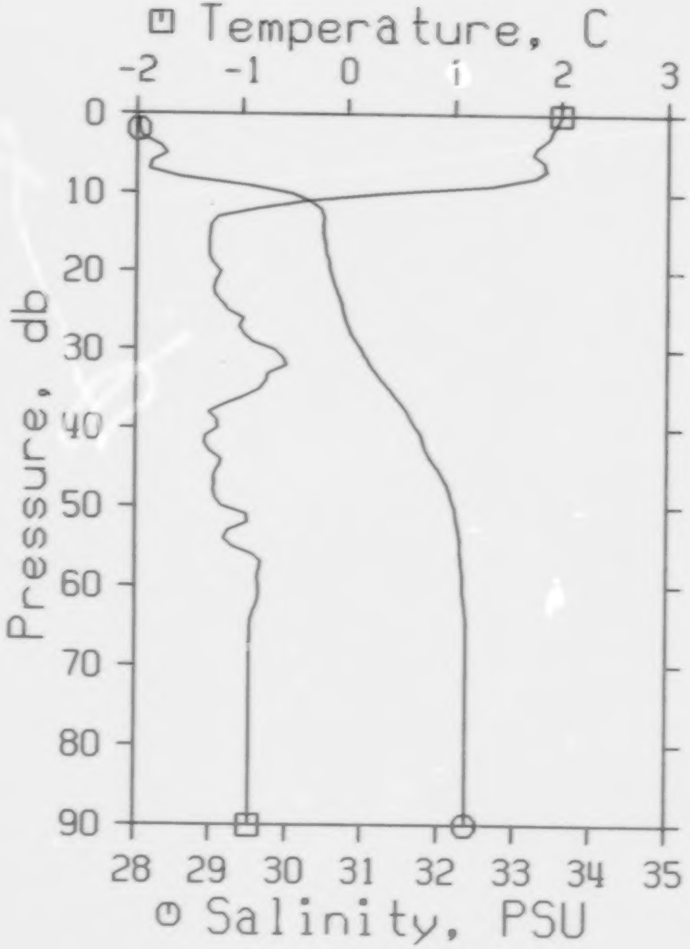
STATIØN : L048

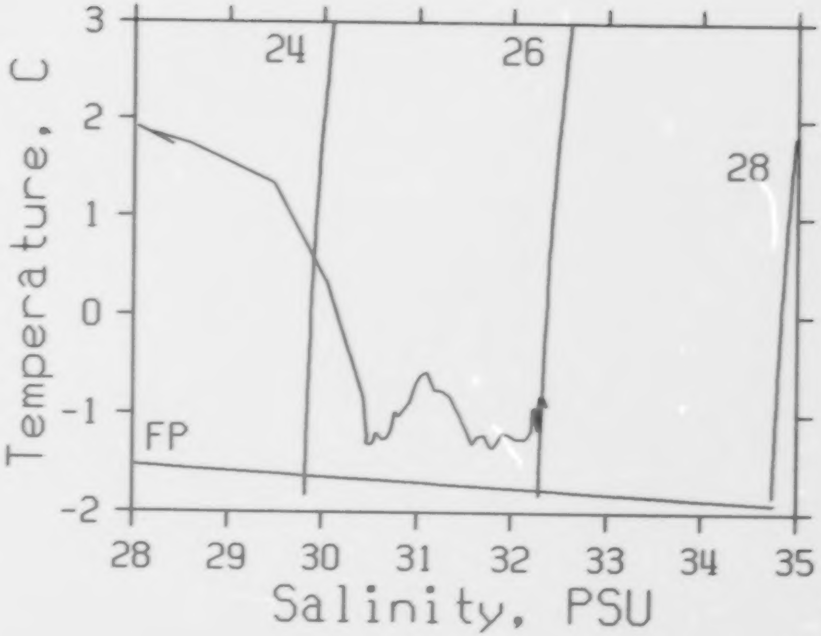
REFERENCE NØ.: 90-70-056

DATE/TIME : 17/09/90 01:52 UTC

PØSITIØN : 69-40.0N 137-54.1W

PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	1.996	1.996	27.908	22.32	553.0	.00	.00	1449
10	10	.354	.354	30.039	24.11	381.6	.51	.02	1444
20	20	-1.191	-1.191	30.571	24.59	335.8	.86	.08	1438
30	30	-.694	-.695	30.984	24.92	305.2	1.18	.16	1441
50	49	-1.170	-1.171	32.209	25.92	209.5	1.68	.36	1441
75	74	-.915	-.917	32.369	26.04	197.9	2.18	.68	1443
90	89	-.915	-.918	32.368	26.04	198.0	2.48	.93	1443





NOGAP DATA REPORT

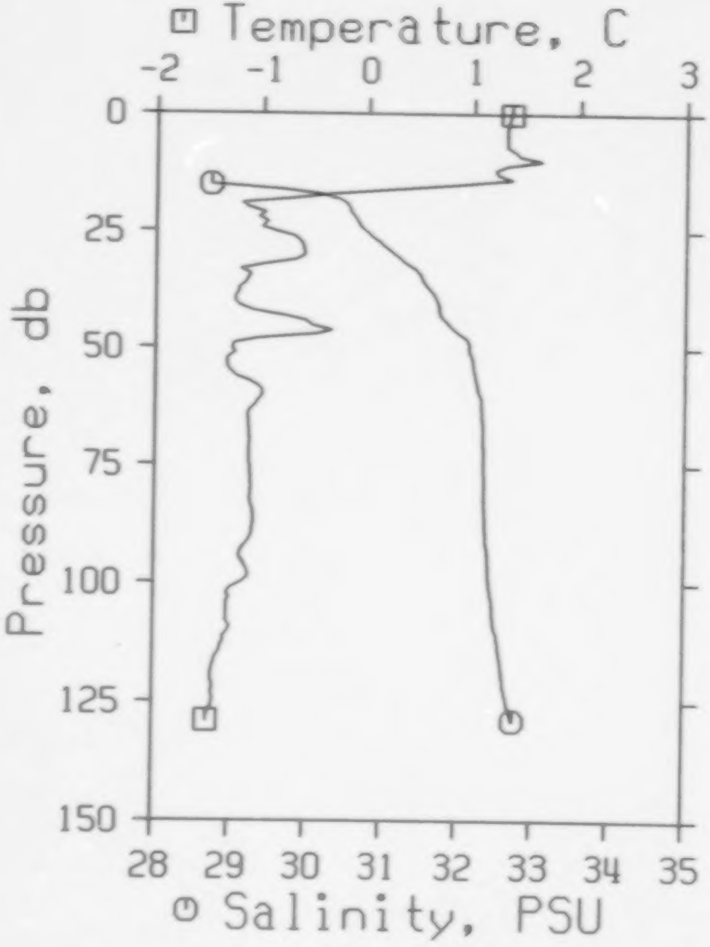
STATION : L049

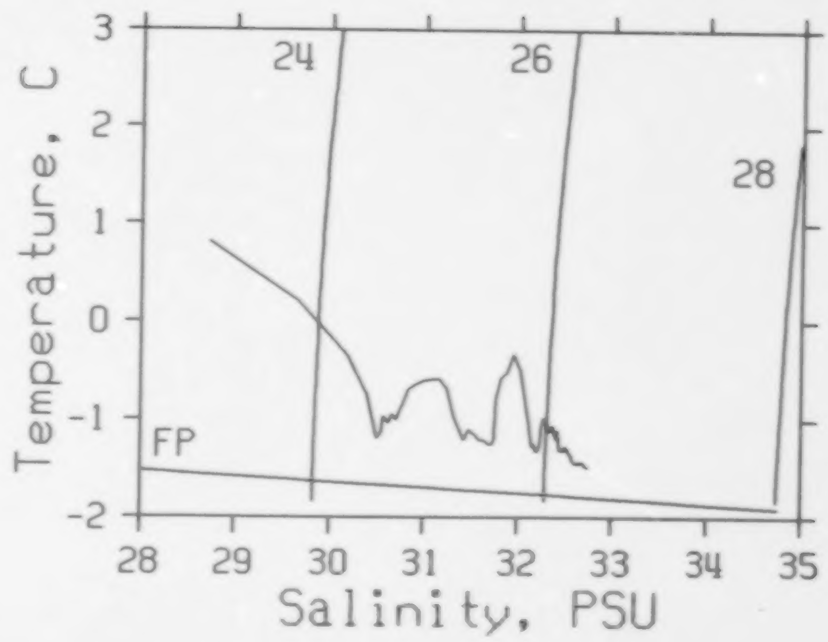
REFERENCE NO.: 90-70-057

DATE/TIME : 17/09/90 03:09 UTC

POSITION : 69-38.0N 138-14.1W

PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	1.352	1.352	24.640	19.74	800.9	.00	.00	1442
10	10	1.637	1.637	26.935	21.56	625.6	.77	.04	1446
20	20	-1.125	-1.126	30.557	24.58	337.0	1.25	.11	1438
30	30	-.594	-.594	31.168	25.06	291.3	1.57	.19	1442
50	49	-1.275	-1.276	32.151	25.88	213.7	2.06	.39	1440
75	74	-1.105	-1.106	32.354	26.04	198.5	2.57	.71	1442
100	99	-1.180	-1.183	32.436	26.11	192.0	3.06	1.15	1442
125	124	-1.437	-1.439	32.682	26.31	172.4	3.51	1.66	1441
129	128	-1.491	-1.494	32.763	26.38	166.0	3.58	1.75	1441





NOGAP DATA REPORT

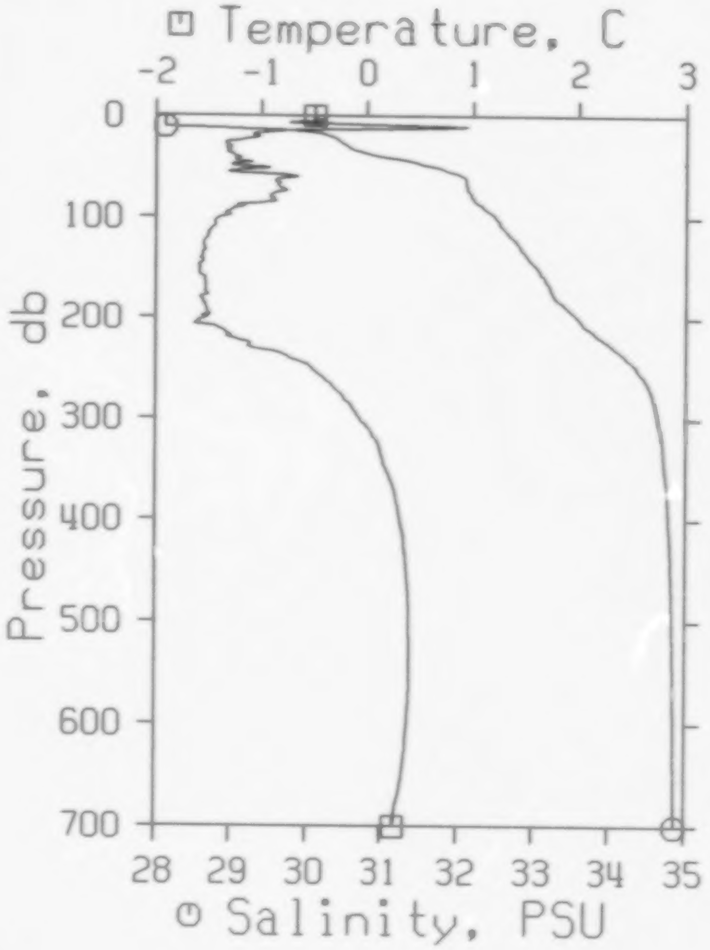
STATION : L050

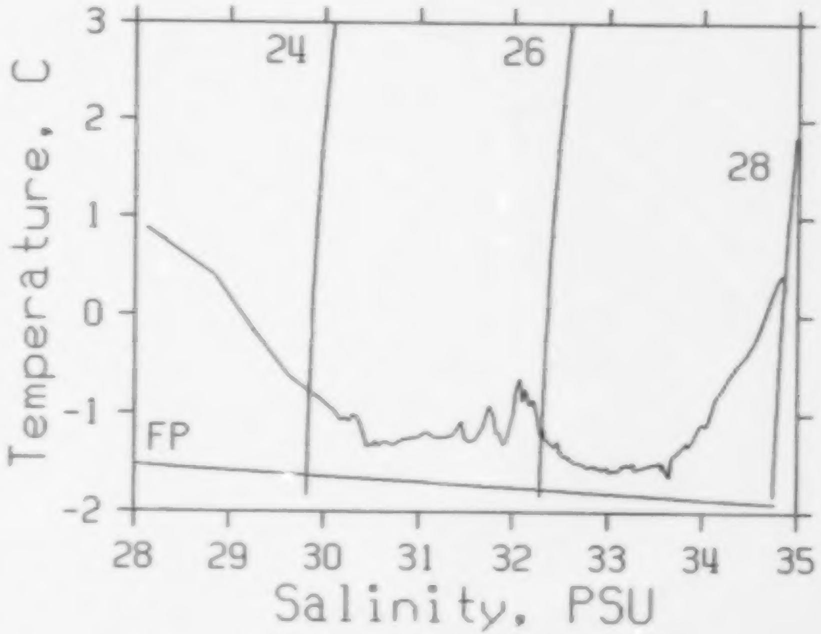
REFERENCE NO.: 90-70-058

DATE/TIME : 17/09/90 14:54 UTC

POSITION : 70-24.9N 139- 3.8W

PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	-.497	-.497	21.623	17.35	1030.9	.00	.00	1429
10	10	.948	.948	25.952	20.80	698.3	.94	.05	1442
20	20	-1.012	-1.013	30.307	24.38	356.6	1.36	.11	1438
30	30	-1.280	-1.280	30.545	24.58	337.6	1.71	.20	1438
50	49	-1.155	-1.156	31.672	25.49	251.0	2.31	.44	1440
75	74	-.834	-.836	32.153	25.87	214.8	2.87	.79	1443
100	99	-1.384	-1.386	32.494	26.16	187.0	3.37	1.24	1441
125	124	-1.543	-1.545	32.776	26.39	164.9	3.81	1.74	1441
150	148	-1.569	-1.572	33.051	26.62	143.6	4.20	2.28	1442
175	173	-1.522	-1.525	33.250	26.78	128.4	4.53	2.83	1442
200	198	-1.524	-1.529	33.593	27.06	101.9	4.82	3.38	1443
250	247	-.520	-.528	34.359	27.64	46.6	5.18	4.20	1450
300	297	-.064	-.076	34.633	27.84	27.7	5.35	4.67	1453
400	396	.320	.303	34.778	27.93	18.6	5.57	5.45	1457
500	494	.410	.388	34.833	27.97	14.8	5.74	6.22	1459
600	593	.395	.368	34.854	27.99	13.1	5.89	7.03	1461
700	692	.265	.234	34.869	28.01	11.2	6.01	7.87	1462





NOGAP DATA REPORT

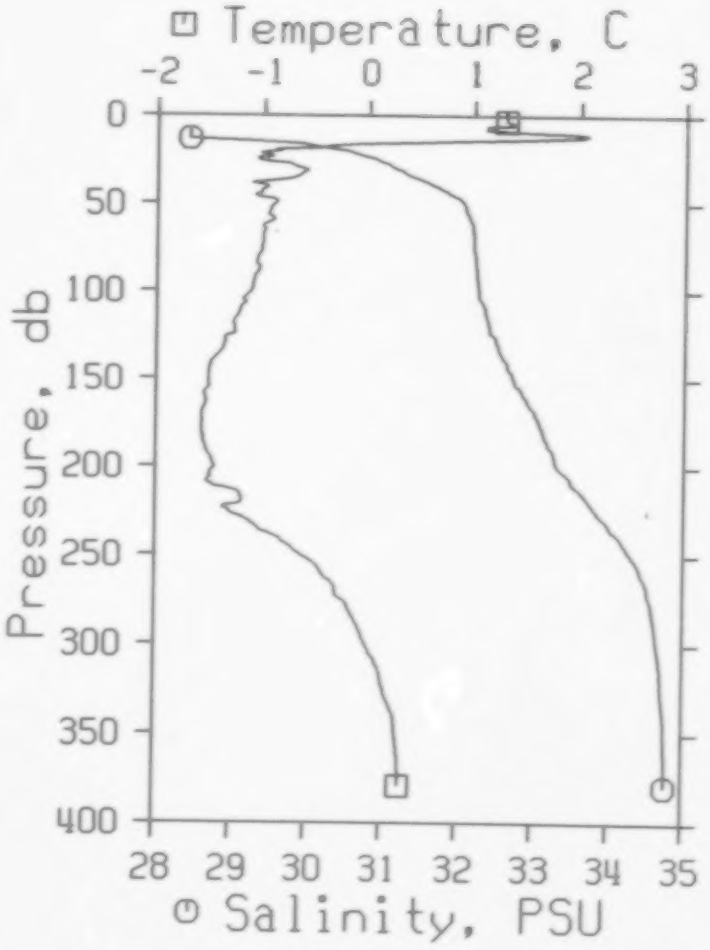
STATION : L051

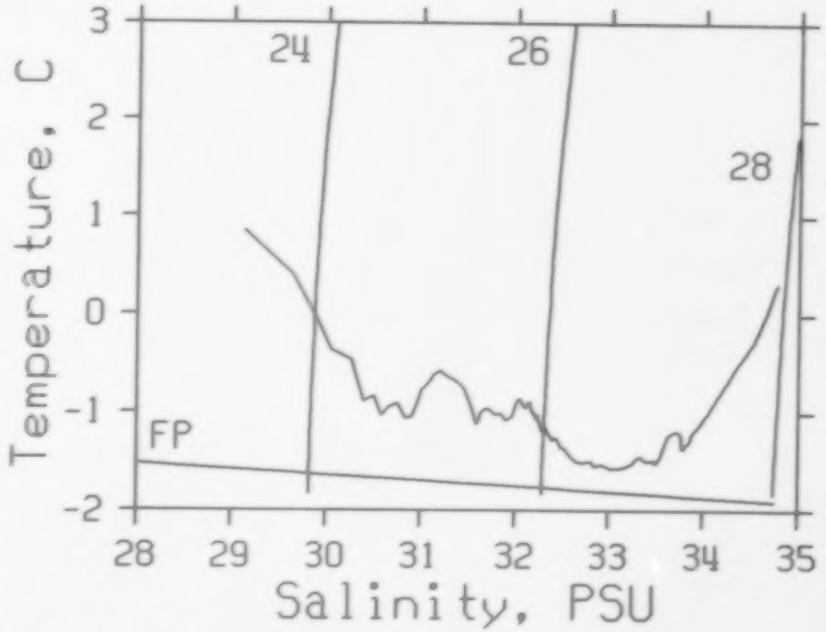
REFERENCE NO.: 90-70-060

DATE/TIME : 17/09/90 18:33 UTC

POSITION : 70-13.0N 139-12.1W

PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	1.285	1.285	23.366	18.72	898.9	.00	.00	1440
10	10	1.935	1.935	26.076	20.86	693.0	.84	.04	1446
20	20	-.842	-.843	30.513	24.54	341.1	1.30	.11	1440
30	30	-.614	-.615	31.153	25.05	292.4	1.61	.19	1442
50	49	-.889	-.890	32.065	25.80	221.4	2.11	.39	1442
75	74	-1.010	-1.012	32.200	25.91	210.6	2.65	.73	1442
100	99	-1.108	-1.110	32.264	25.97	205.4	3.17	1.19	1442
125	124	-1.301	-1.303	32.467	26.14	189.3	3.66	1.75	1442
150	148	-1.511	-1.514	32.738	26.36	167.9	4.10	2.37	1441
175	173	-1.566	-1.570	33.080	26.64	141.4	4.48	3.00	1442
200	198	-1.452	-1.457	33.325	26.83	122.8	4.81	3.62	1443
250	247	-.621	-.629	34.303	27.60	50.5	5.23	4.56	1449
300	297	-.002	-.013	34.659	27.86	26.0	5.40	5.03	1454
400	396	.327	.311	34.781	27.94	18.3	5.60	5.75	1457





NOGAP DATA REPORT

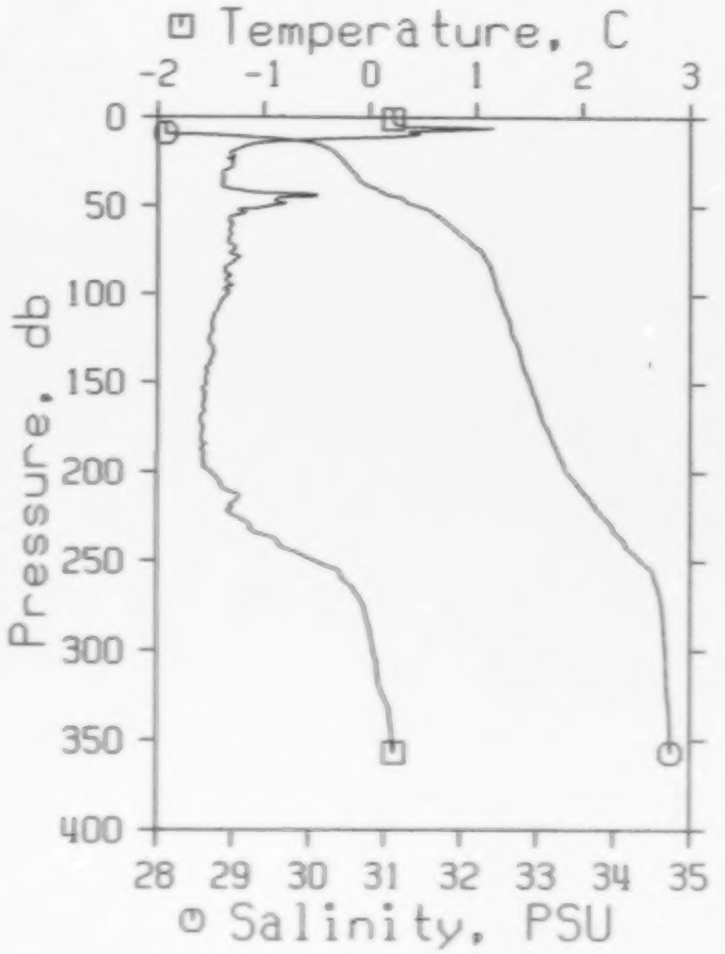
STATION : L052

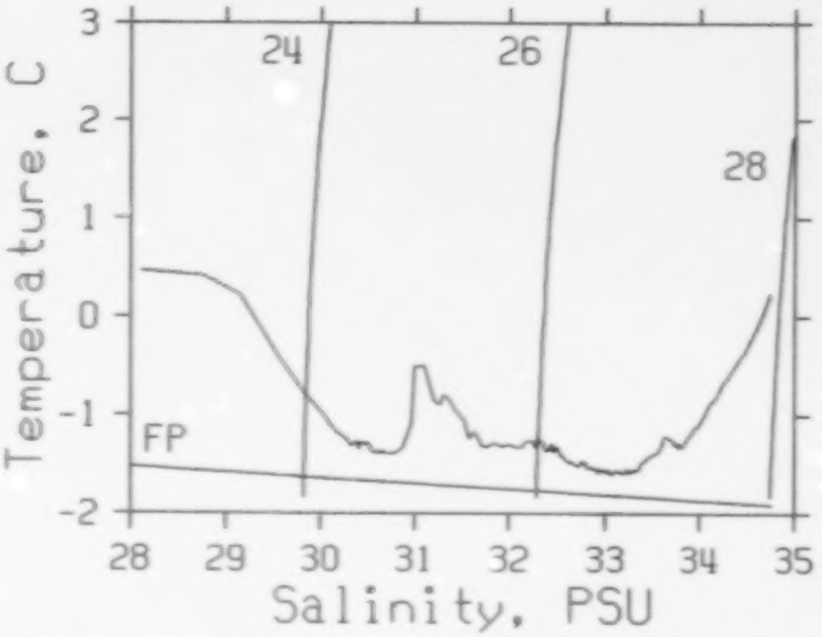
REFERENCE NO.: 90-70-061

DATE/TIME : 17/09/90 20:03 UTC

POSITION : 70- 9.9N 138-47.8W

PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	.218	.218	21.913	17.58	1008.9	.00	.00	1433
10	10	.414	.413	28.755	23.08	480.5	.84	.04	1443
20	20	-1.313	-1.313	30.342	24.41	353.2	1.23	.10	1437
30	30	-1.368	-1.369	30.551	24.58	337.0	1.57	.18	1437
50	49	-.959	-.960	31.439	25.29	269.4	2.19	.43	1441
75	74	-1.278	-1.279	32.257	25.96	205.5	2.77	.80	1441
100	99	-1.333	-1.335	32.501	26.16	186.6	3.26	1.23	1441
125	124	-1.510	-1.512	32.702	26.33	170.6	3.70	1.74	1441
150	148	-1.537	-1.540	32.907	26.50	154.8	4.11	2.30	1442
175	173	-1.566	-1.570	33.118	26.67	138.4	4.47	2.90	1442
200	198	-1.478	-1.483	33.394	26.89	117.4	4.79	3.51	1443
250	247	-.522	-.530	34.360	27.64	46.5	5.19	4.42	1450
300	297	.039	.027	34.678	27.87	24.7	5.34	4.83	1454
357	353	.236	.222	34.750	27.92	20.3	5.47	5.26	1456





NOGAP DATA REPORT

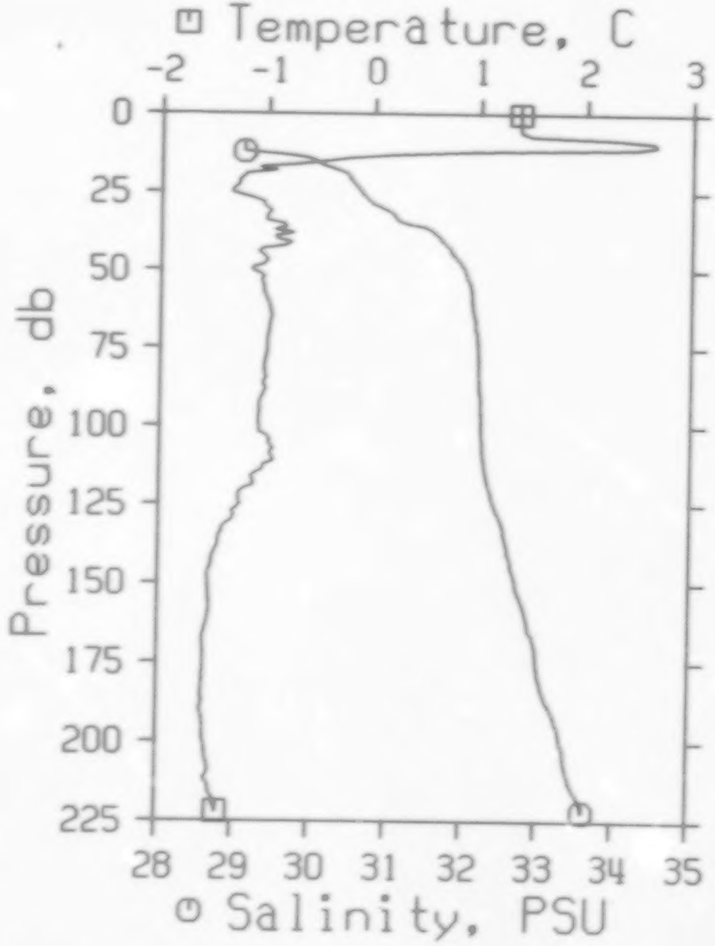
STATION : L053

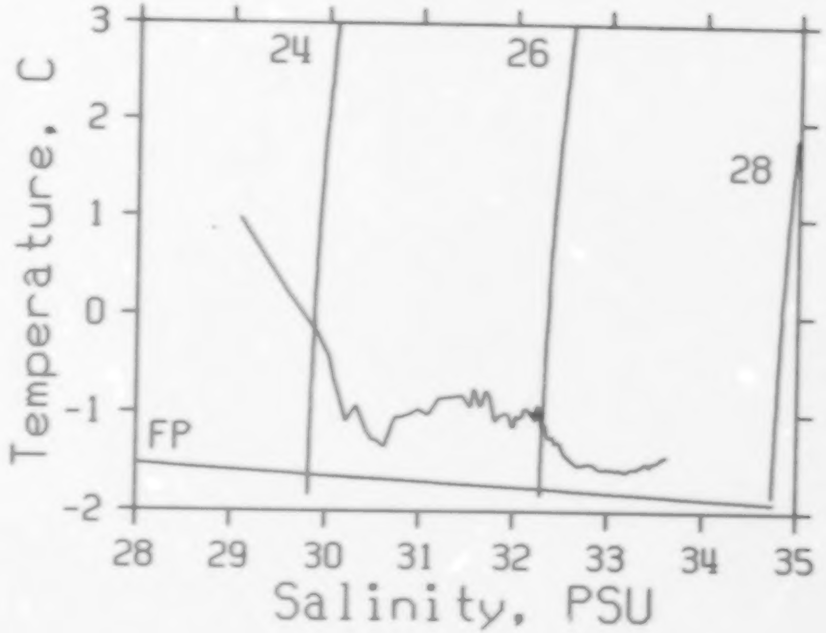
REFERENCE NO.: 90-70-062

DATE/TIME : 17/09/90 22:19 UTC

POSITION : 70- 9.0N 139-15.3W

PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	1.375	1.375	23.080	18.49	921.3	.00	.00	1440
10	10	2.660	2.660	25.626	20.46	731.4	.88	.04	1449
20	20	-1.224	-1.224	30.465	24.51	343.9	1.30	.10	1438
30	30	-1.009	-1.009	30.901	24.86	310.7	1.63	.19	1439
50	49	-1.139	-1.140	32.004	25.75	225.4	2.15	.40	1441
75	74	-.987	-.989	32.187	25.90	211.7	2.69	.74	1442
100	99	-1.063	-1.065	32.236	25.94	207.7	3.21	1.21	1442
125	124	-1.235	-1.238	32.413	26.09	193.6	3.72	1.78	1442
150	148	-1.522	-1.525	32.713	26.34	169.8	4.17	2.41	1441
175	173	-1.562	-1.566	33.002	26.58	147.4	4.56	3.05	1442
200	198	-1.549	-1.554	33.328	26.84	122.3	4.89	3.69	1443
225	223	-1.390	-1.395	33.705	27.14	93.7	5.16	4.28	1445





NOGAP DATA REPORT

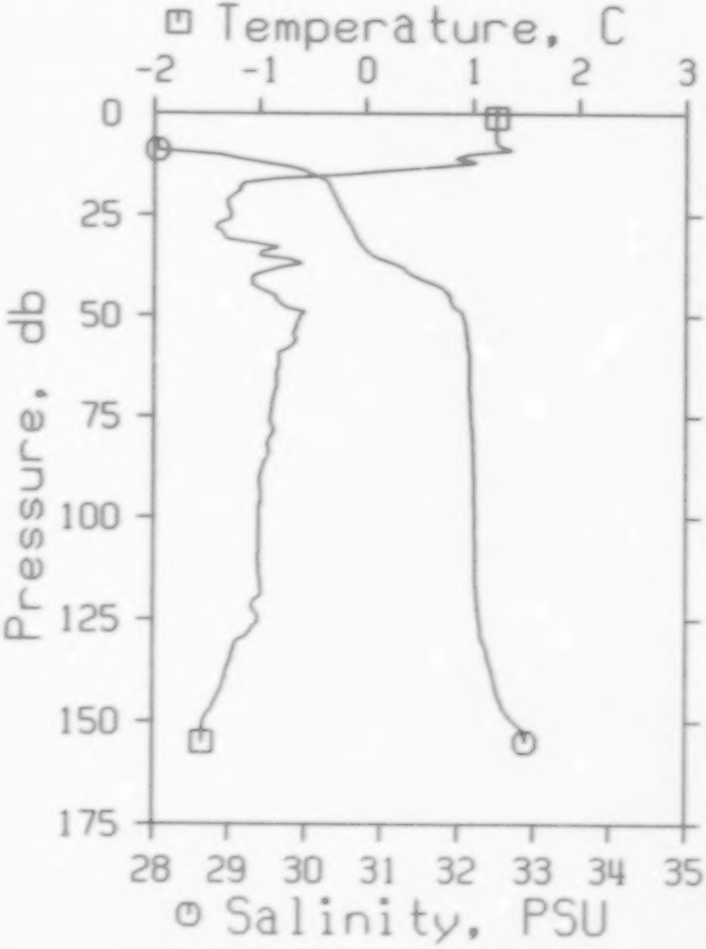
STATION : L054

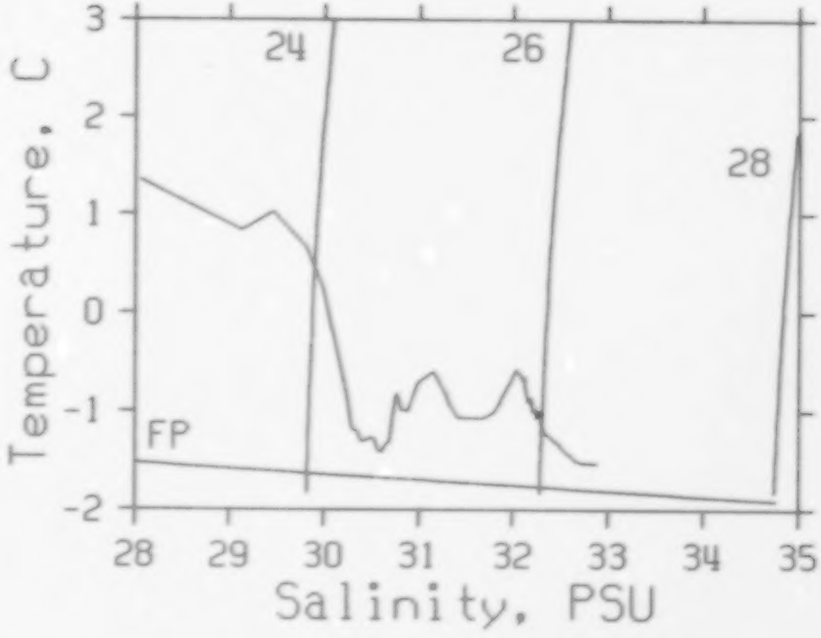
REFERENCE NO.: 90-70-063

DATE/TIME : 17/09/90 22:52 UTC

POSITION : 70- 4.8N 139-15.8W

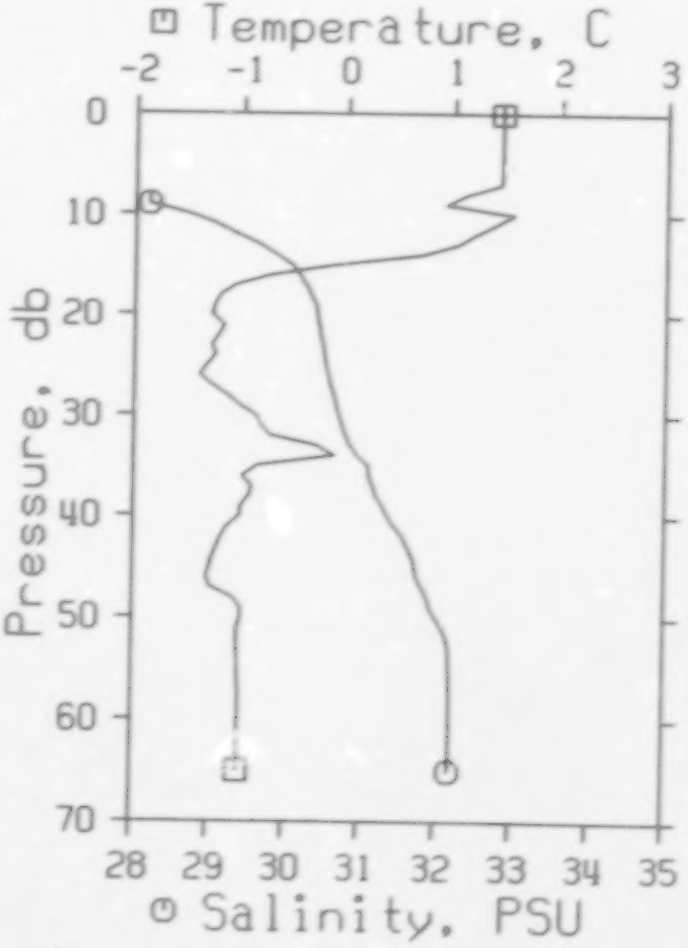
PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	1.211	1.211	22.868	18.32	937.1	.00	.00	1439
10	10	.967	.967	28.860	23.14	474.8	.85	.04	1446
20	20	-1.248	-1.249	30.376	24.44	350.7	1.24	.10	1437
30	30	-1.332	-1.333	30.659	24.67	328.7	1.57	.18	1438
50	49	-.619	-.621	32.063	25.79	222.4	2.12	.40	1443
75	74	-.899	-.901	32.171	25.88	213.2	2.66	.74	1442
100	99	-1.001	-1.003	32.219	25.92	209.2	3.18	1.21	1442
125	124	-1.006	-1.009	32.280	25.98	204.5	3.70	1.80	1443
150	148	-1.524	-1.527	32.735	26.36	168.1	4.18	2.47	1441
155	153	-1.531	-1.534	32.888	26.48	156.2	4.25	2.59	1442

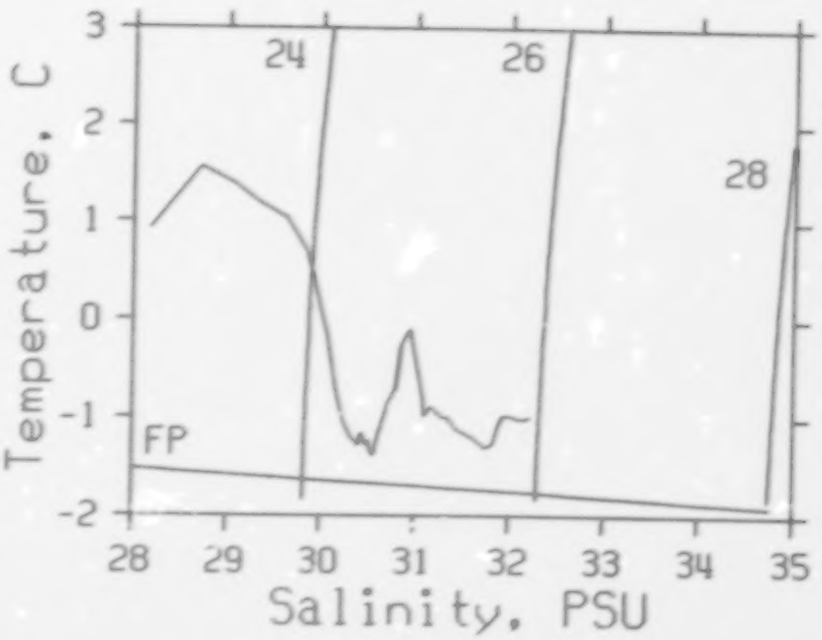




NOGAP DATA REPORT
STATION : L055
REFERENCE NO.: 90-70-064
DATE/TIME : 17/09/90 23:35 UTC
POSITION : 70- .9N 139-18.4W

PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	1.449	1.449	22.877	18.32	937.2	.00	.00	1440
10	10	1.560	1.560	28.709	22.99	489.3	.86	.04	1448
20	20	-1.274	-1.274	30.411	24.47	348.0	1.25	.10	1437
30	30	-.858	-.859	30.709	24.70	325.9	1.59	.19	1440
50	49	-.986	-.987	32.008	25.75	225.5	2.14	.41	1441
65	64	-1.002	-1.003	32.195	25.91	211.1	2.46	.59	1442





NOGAP DATA REPORT

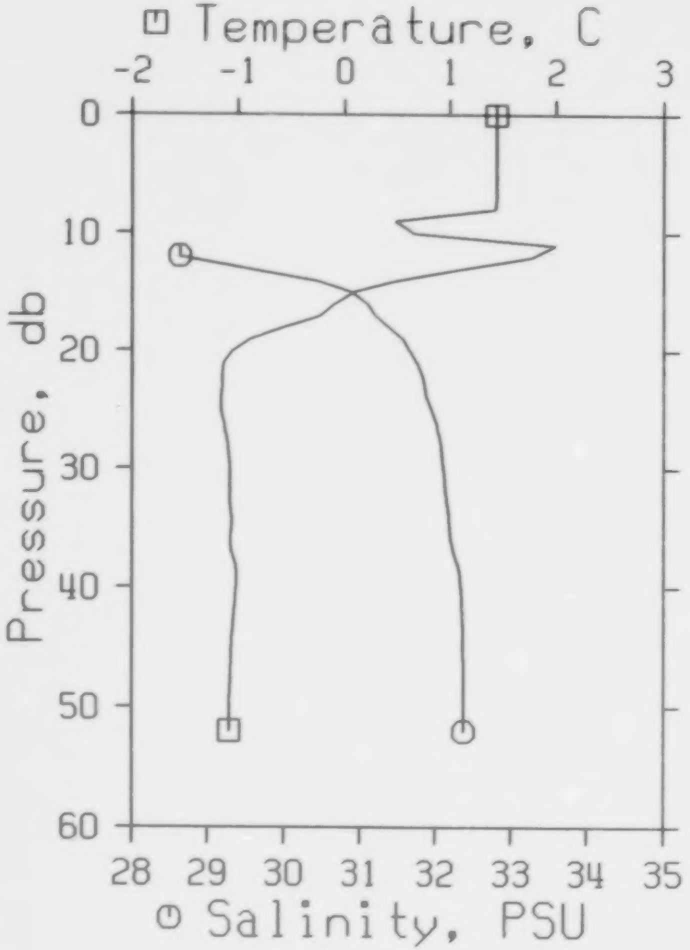
STATION : L056

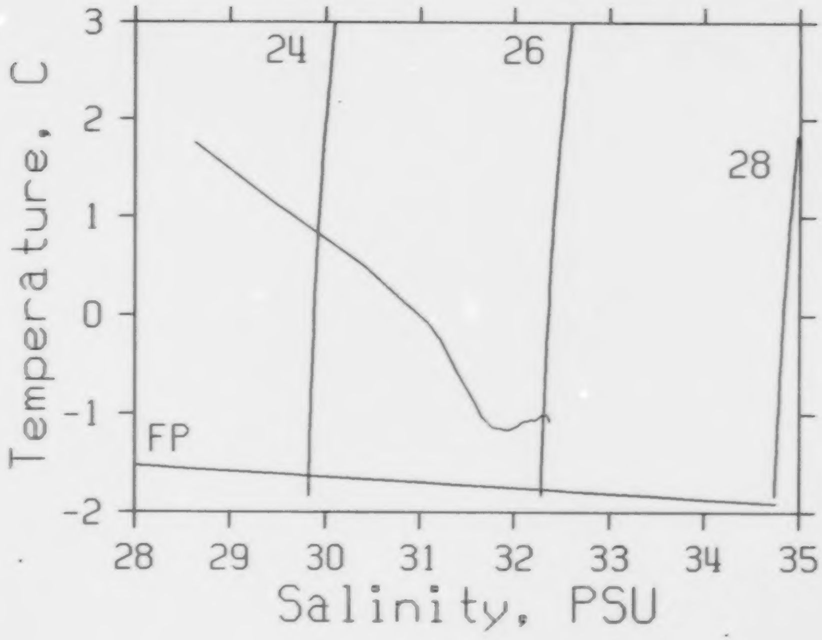
REFERENCE NO.: 90-70-065

DATE/TIME : 18/09/90 00:05 UTC

POSITION : 69-56.7 139-22.3W

PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	1.435	1.435	23.163	18.55	915.0	.00	.00	1440
10	10	.657	.657	26.392	21.17	663.3	.88	.04	1441
20	20	-1.040	-1.040	31.670	25.48	251.4	1.26	.10	1440
30	30	-1.074	-1.075	32.108	25.84	217.6	1.49	.16	1441
50	49	-1.079	-1.080	32.376	26.06	196.9	1.89	.32	1441
52	51	-1.080	-1.081	32.376	26.06	196.9	1.93	.34	1441





NOGAP DATA REPORT

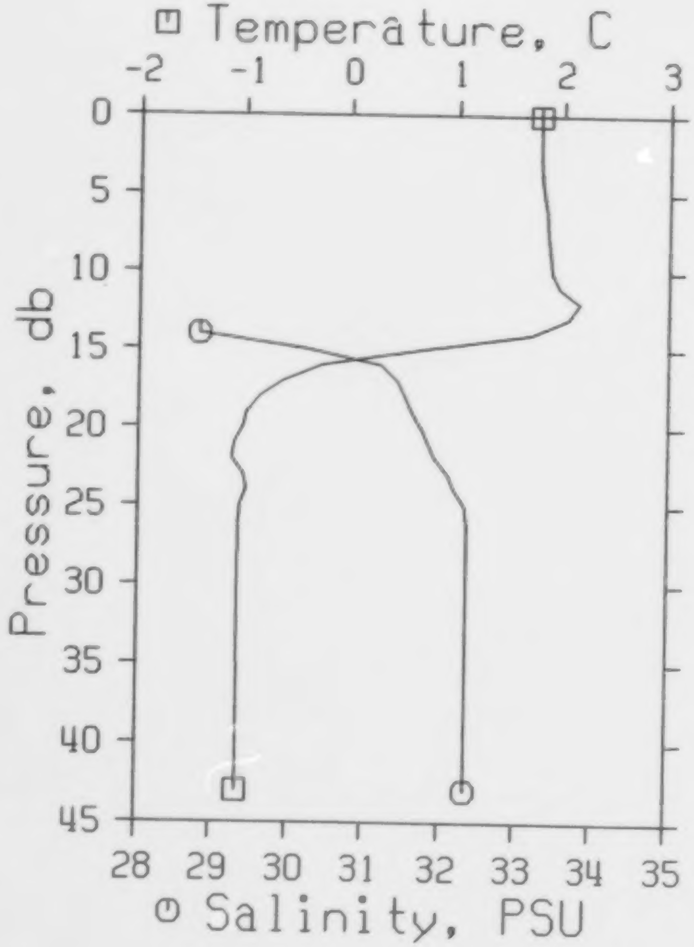
STATION : L057

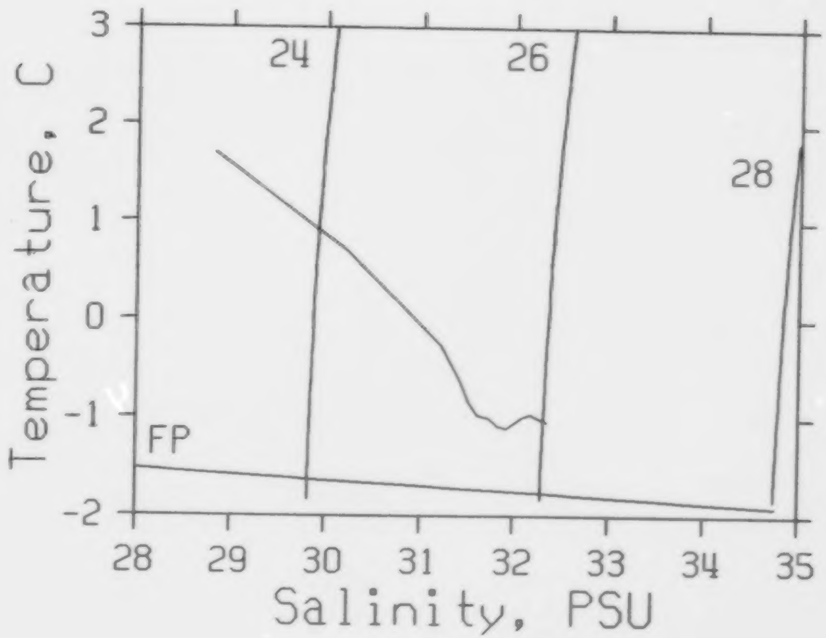
REFERENCE NO.: 90-70-066

DATE/TIME : 18/09/90 00:35 UTC

POSITION : 69-53.0 139-24.0W

PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	1.783	1.783	24.736	19.79	795.2	.00	.00	1444
10	10	1.893	1.892	24.960	19.97	778.6	.79	.04	1445
10	10	1.904	1.904	25.001	20.00	775.5	.80	.04	1445
20	20	-1.003	-1.003	31.737	25.53	246.3	1.23	.10	1440
30	30	-1.045	-1.046	32.344	26.03	199.4	1.45	.16	1441
43	43	-1.042	-1.043	32.343	26.03	199.6	1.71	.25	1441





NØGAP DATA REPØRT

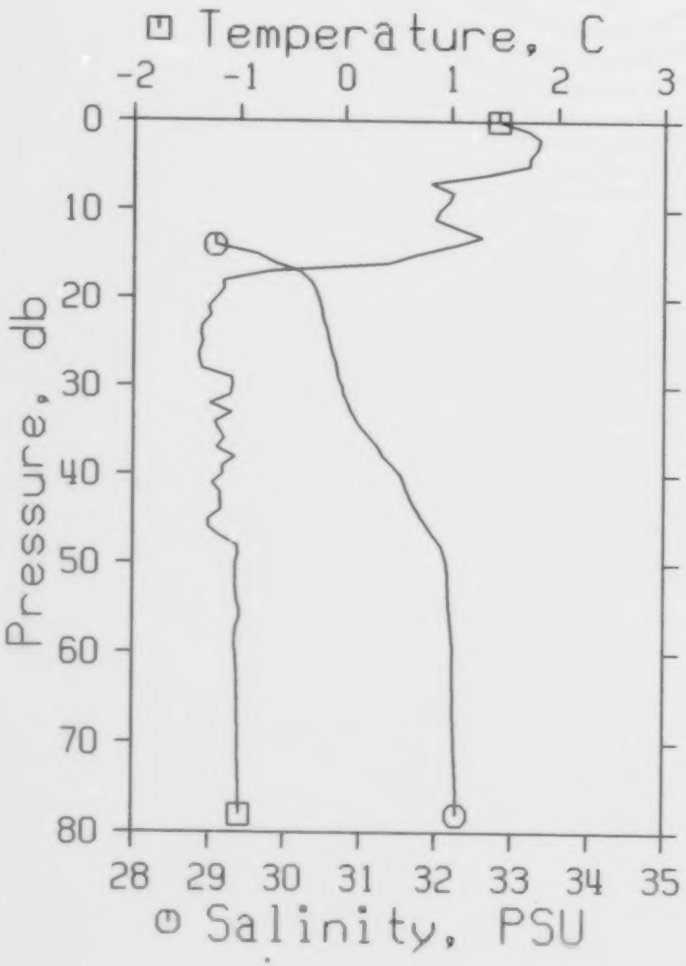
STATIØN : L058

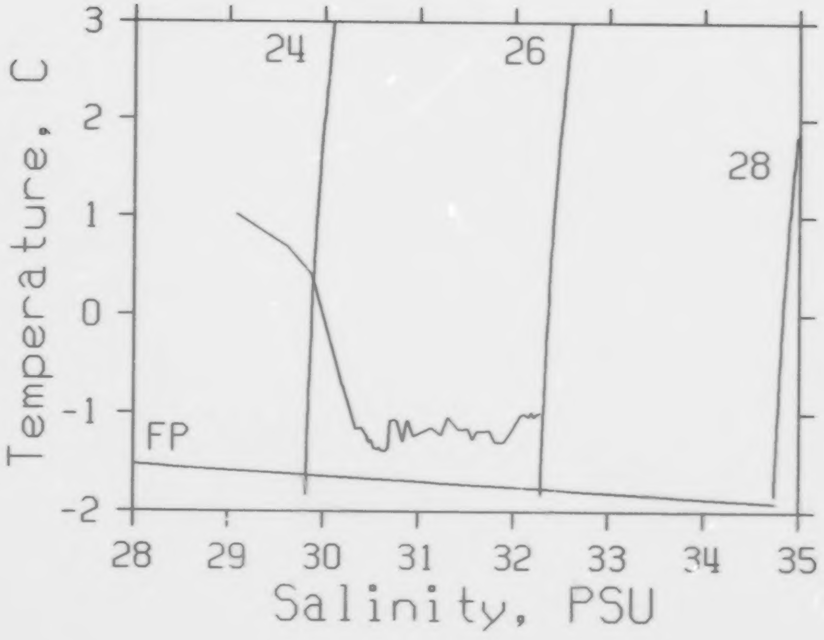
REFERENCE NØ.: 90-70-067

DATE/TIME : 18/09/90 01:12 UTC

PØSITIØN : 69-55.0N 139- 7.8

PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	1.443	1.443	24.419	19.56	818.2	.00	.00	1442
10	10	.895	.894	26.474	21.23	657.9	.79	.04	1442
20	20	-1.217	-1.218	30.453	24.50	344.8	1.25	.10	1438
30	30	-1.067	-1.068	30.756	24.74	321.8	1.58	.19	1439
50	49	-1.035	-1.036	32.145	25.87	214.8	2.11	.40	1441
75	74	-.996	-.998	32.280	25.97	204.5	2.63	.73	1442
78	77	-.994	-.996	32.285	25.98	204.2	2.70	.78	1442





NOGAP DATA REPORT

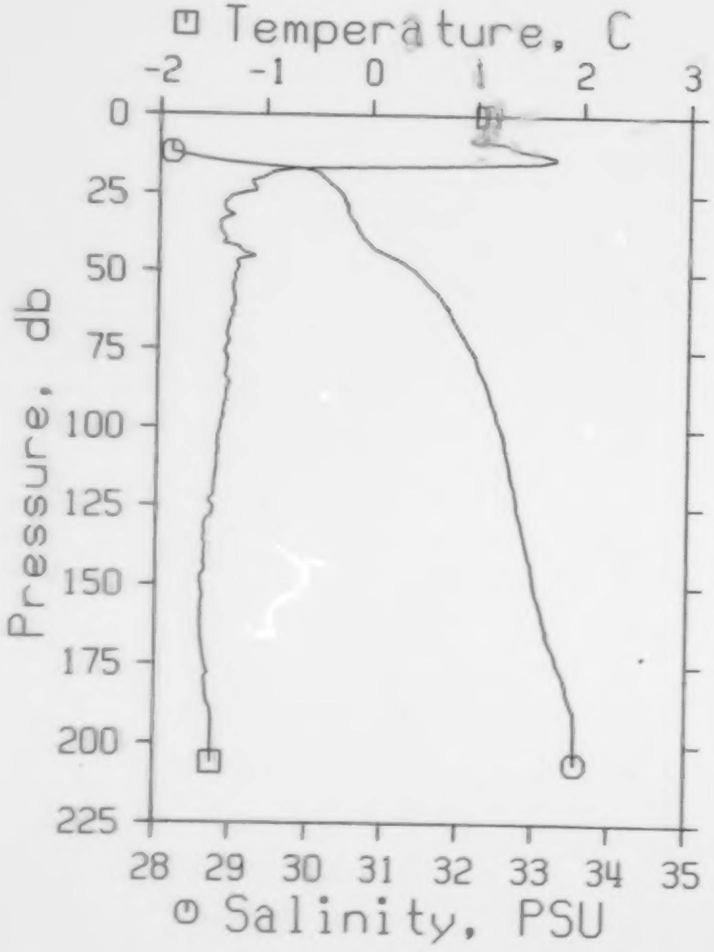
STATION : L059

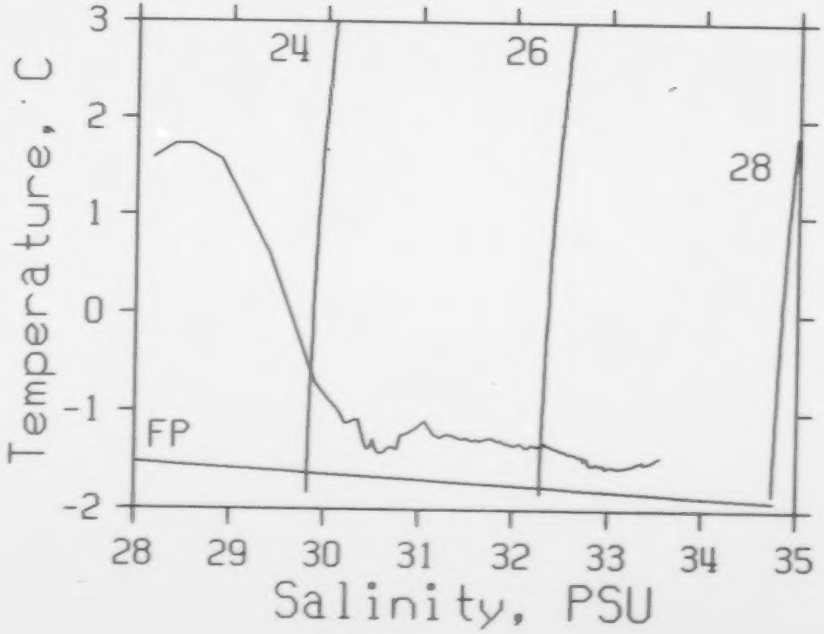
REFERENCE NO.: 90-70-068

DATE/TIME : 18/09/90 01:50 UTC

POSITION : 69-56.0N 138-50.0W

PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	1.078	1.078	22.841	18.30	938.8	.00	.00	1438
10	10	1.326	1.325	26.959	21.60	622.3	.89	.04	1445
20	20	-1.015	-1.015	30.168	24.26	367.3	1.35	.11	1438
30	30	-1.374	-1.374	30.481	24.53	342.4	1.70	.20	1437
50	49	-1.259	-1.260	31.398	25.27	271.8	2.34	.46	1439
75	74	-1.364	-1.366	32.142	25.87	214.2	2.93	.83	1440
100	99	-1.395	-1.397	32.531	26.19	184.1	3.43	1.27	1441
125	124	-1.466	-1.468	32.750	26.37	167.0	3.86	1.77	1441
150	148	-1.561	-1.564	32.988	26.57	148.4	4.25	2.31	1442
175	173	-1.524	-1.528	33.305	26.82	124.1	4.59	2.87	1443
200	198	-1.454	-1.459	33.552	27.02	105.3	4.87	3.40	1444
206	204	-1.455	-1.459	33.554	27.02	105.2	4.93	3.52	1444





NOGAP DATA REPORT

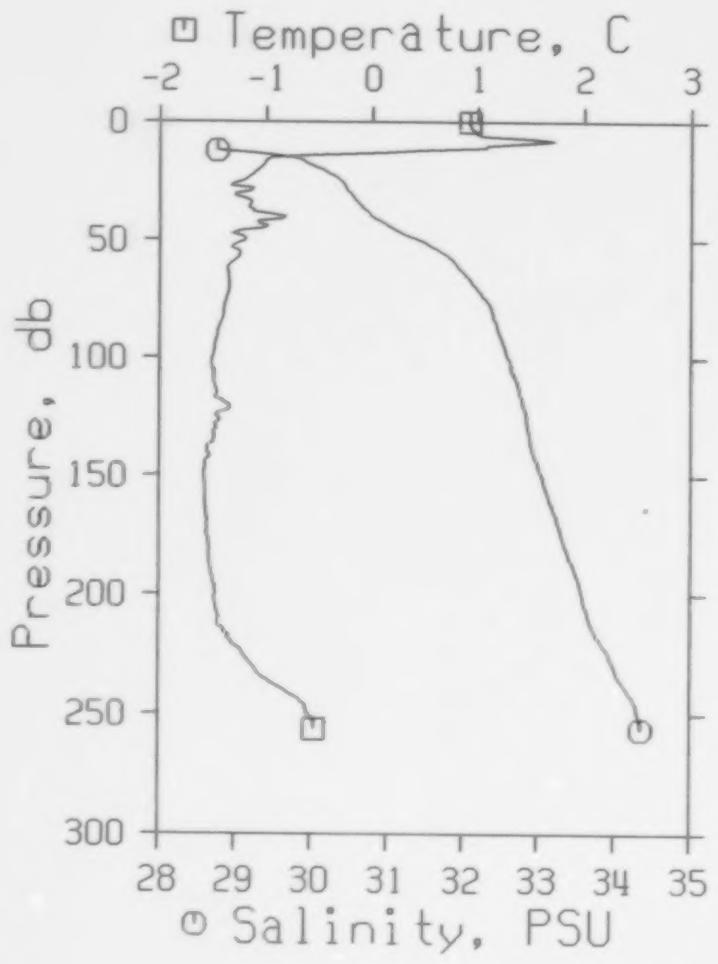
STATION : L060

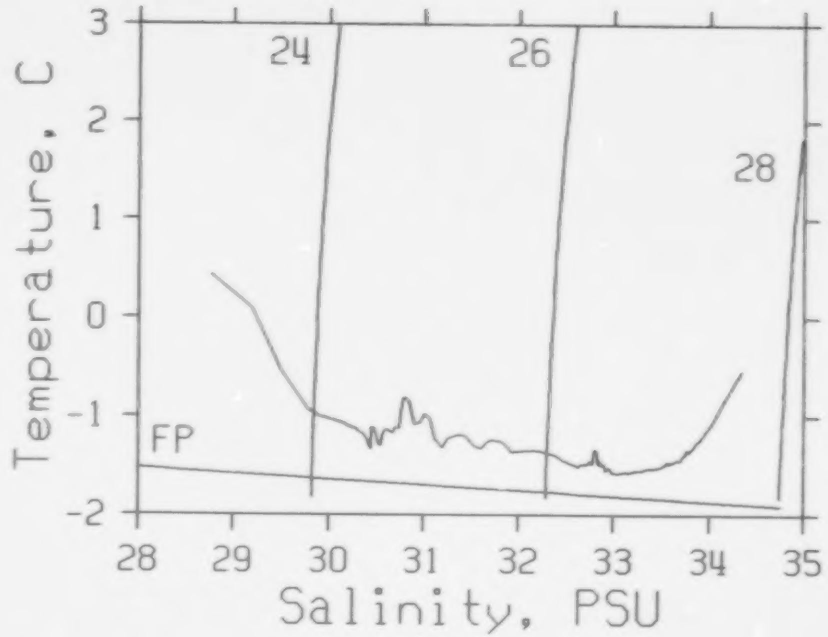
REFERENCE NO.: 90-70-069

DATE/TIME : 18/09/90 03:11 UTC

POSITION : 69-58.2N 138-34.1W

PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	.919	.919	22.715	18.21	948.1	.00	.00	1437
10	10	1.084	1.083	26.258	21.04	675.2	.90	.04	1443
20	20	-1.069	-1.069	30.149	24.25	368.6	1.34	.11	1438
30	30	-1.282	-1.282	30.525	24.56	339.2	1.69	.20	1438
50	49	-1.197	-1.198	31.447	25.31	268.2	2.31	.45	1440
75	74	-1.372	-1.374	32.306	26.01	201.5	2.88	.81	1440
100	99	-1.501	-1.503	32.605	26.25	178.2	3.36	1.23	1440
125	124	-1.451	-1.454	32.839	26.44	160.2	3.77	1.71	1441
150	148	-1.577	-1.580	33.048	26.61	143.8	4.15	2.24	1442
175	173	-1.548	-1.552	33.310	26.83	123.7	4.49	2.79	1442
200	198	-1.468	-1.472	33.580	27.04	103.1	4.76	3.32	1444
250	247	-.599	-.607	34.316	27.61	49.5	5.15	4.18	1450
256	253	-.538	-.546	34.355	27.64	46.8	5.18	4.25	1450





NØGAP DATA REPORT

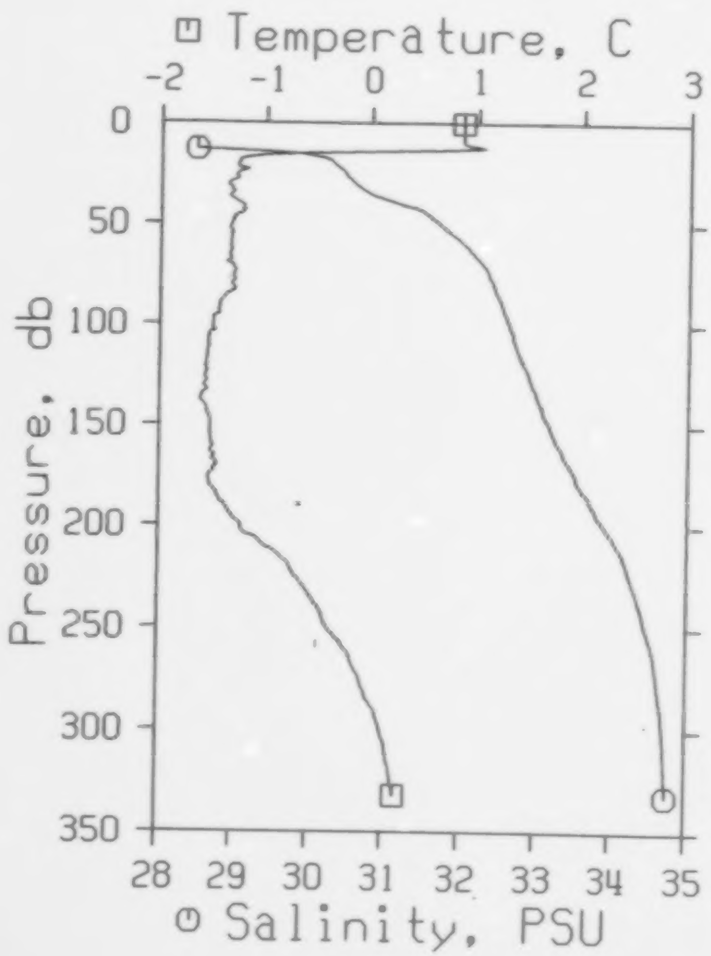
STATIØN : L061

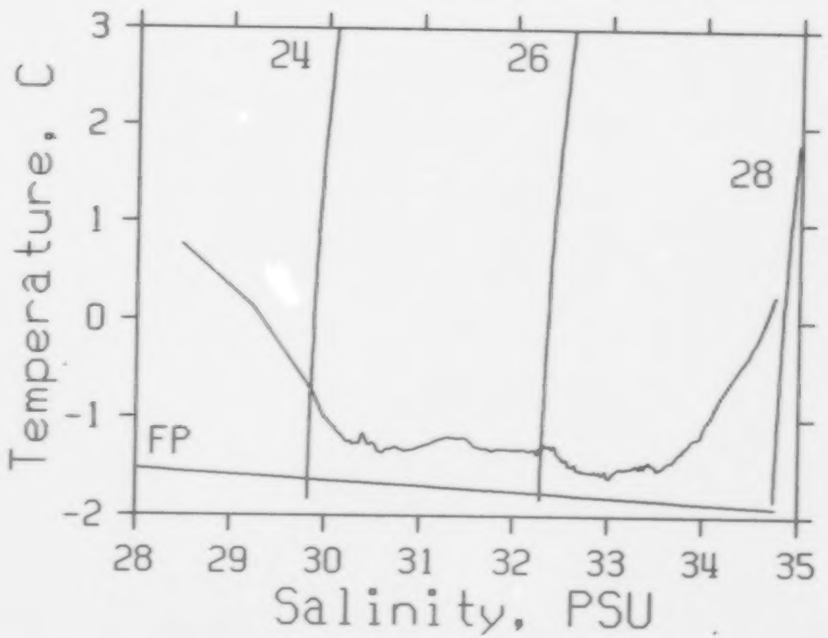
REFERENCE NO.: 90-70-070

DATE/TIME : 18/09/90 14:14 UTC

PØSITIØN : 70-17.0N 138-20.2W

PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	.858	.858	25.010	20.05	770.6	.00	.00	1440
10	10	.867	.867	25.097	20.12	763.9	.77	.04	1440
20	20	-1.268	-1.268	30.301	24.38	356.5	1.23	.11	1437
30	30	-1.351	-1.351	30.577	24.60	335.0	1.58	.19	1437
50	49	-1.309	-1.310	31.708	25.52	247.7	2.16	.43	1439
75	74	-1.292	-1.293	32.353	26.04	198.1	2.70	.77	1441
100	99	-1.491	-1.493	32.623	26.27	176.8	3.17	1.19	1441
125	124	-1.561	-1.563	32.885	26.48	156.4	3.59	1.66	1441
150	148	-1.515	-1.519	33.167	26.71	134.8	3.95	2.17	1442
175	173	-1.526	-1.529	33.519	27.00	107.6	4.25	2.67	1443
200	198	-1.206	-1.211	33.917	27.31	78.0	4.49	3.11	1445
250	247	-.388	-.396	34.464	27.72	39.1	4.76	3.73	1451
300	297	.130	.118	34.706	27.89	23.1	4.90	4.13	1454
332	328	.262	.248	34.754	27.92	20.1	4.97	4.35	1455





NOGAP DATA REPORT

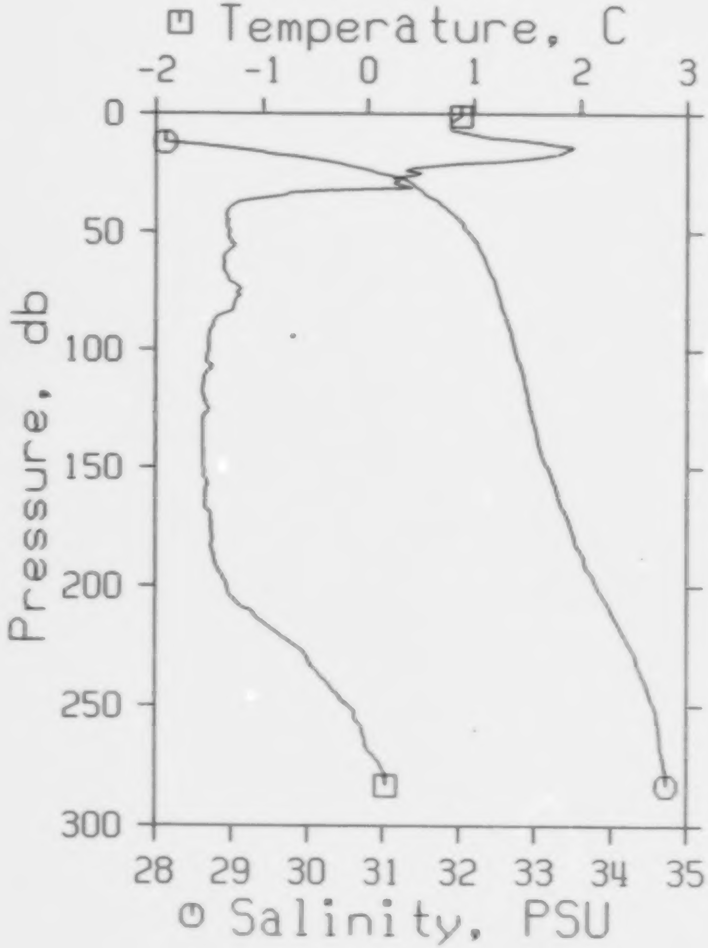
STATION : L062

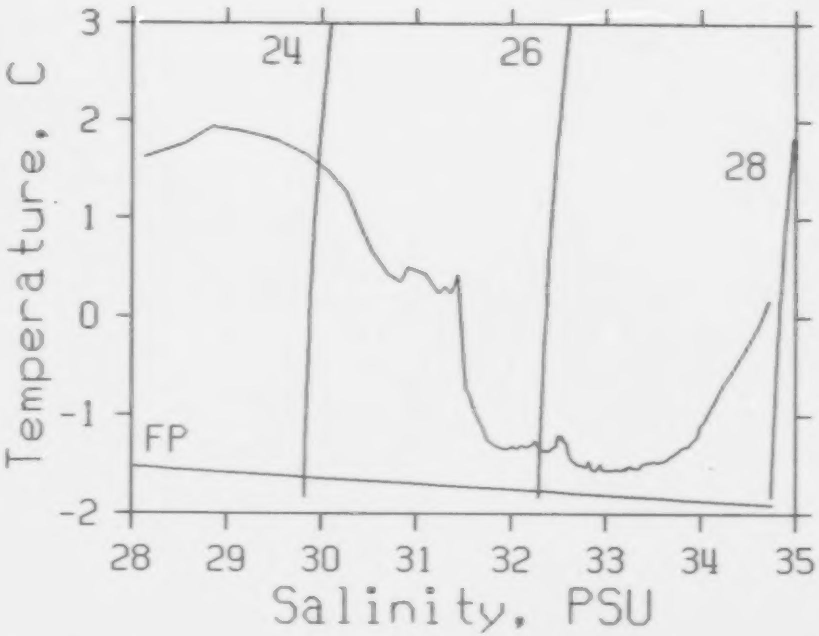
REFERENCE NO.: 90-70-071

DATE/TIME : 18/09/90 15:06 UTC

POSITION : 70-14.0N 138- 6.2W

PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	.873	.873	25.946	20.80	698.5	.00	.00	1441
10	10	1.137	1.137	26.679	21.38	643.0	.70	.04	1443
20	20	1.272	1.271	30.264	24.25	368.7	1.18	.11	1449
30	30	.322	.321	31.413	25.22	276.0	1.49	.18	1446
50	49	-1.311	-1.312	32.129	25.86	215.3	1.97	.38	1440
75	74	-1.226	-1.228	32.507	26.17	186.4	2.46	.69	1441
100	99	-1.504	-1.505	32.743	26.36	167.5	2.90	1.08	1441
125	124	-1.495	-1.498	32.943	26.53	152.1	3.30	1.53	1441
150	148	-1.551	-1.554	33.183	26.72	133.5	3.66	2.03	1442
175	173	-1.480	-1.484	33.472	26.96	111.4	3.96	2.54	1443
200	198	-1.336	-1.341	33.805	27.22	86.2	4.21	3.01	1445
250	247	-.179	-.187	34.569	27.79	32.0	4.49	3.63	1452
283	280	.167	.156	34.732	27.91	21.3	4.57	3.86	1454





NOGAP DATA REPORT

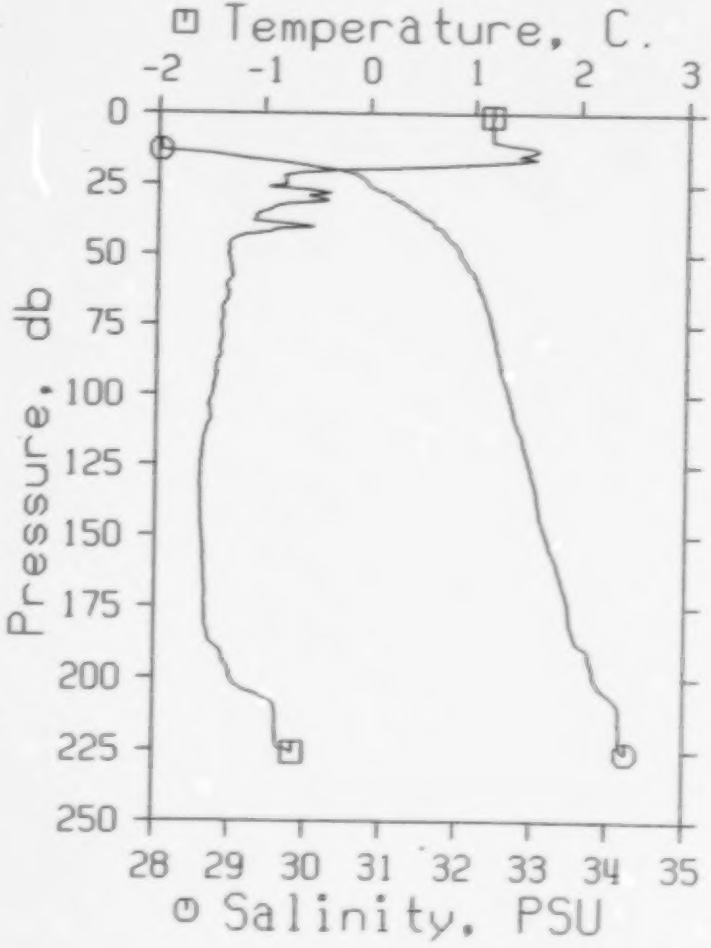
STATION : L063

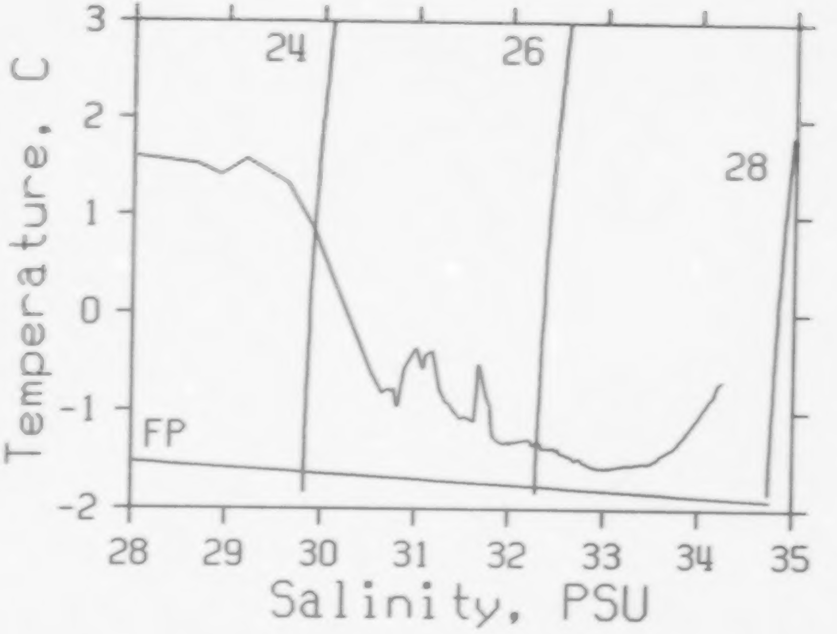
REFERENCE NO.: 90-70-072

DATE/TIME : 18/09/90 15:45 UTC

POSITION : 70-13.1 138- .7W

PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	1.157	1.157	26.669	21.37	643.9	.00	.00	1443
10	10	1.170	1.170	26.702	21.40	641.4	.64	.03	1444
20	20	-.283	-.283	30.395	24.43	351.9	1.13	.10	1442
30	30	-.431	-.432	31.115	25.01	296.0	1.44	.18	1442
50	49	-1.329	-1.330	32.010	25.76	224.4	1.95	.39	1440
75	74	-1.384	-1.386	32.432	26.11	191.7	2.46	.71	1440
100	99	-1.468	-1.470	32.661	26.30	173.9	2.92	1.12	1441
125	124	-1.577	-1.580	32.943	26.53	151.9	3.32	1.58	1441
150	148	-1.556	-1.559	33.169	26.71	134.5	3.68	2.08	1442
175	173	-1.525	-1.529	33.476	26.96	111.0	3.98	2.58	1443
200	198	-1.269	-1.274	33.832	27.24	84.3	4.23	3.04	1445
226	224	-.682	-.689	34.259	27.57	53.6	4.39	3.40	1449





NOGAP DATA REPORT

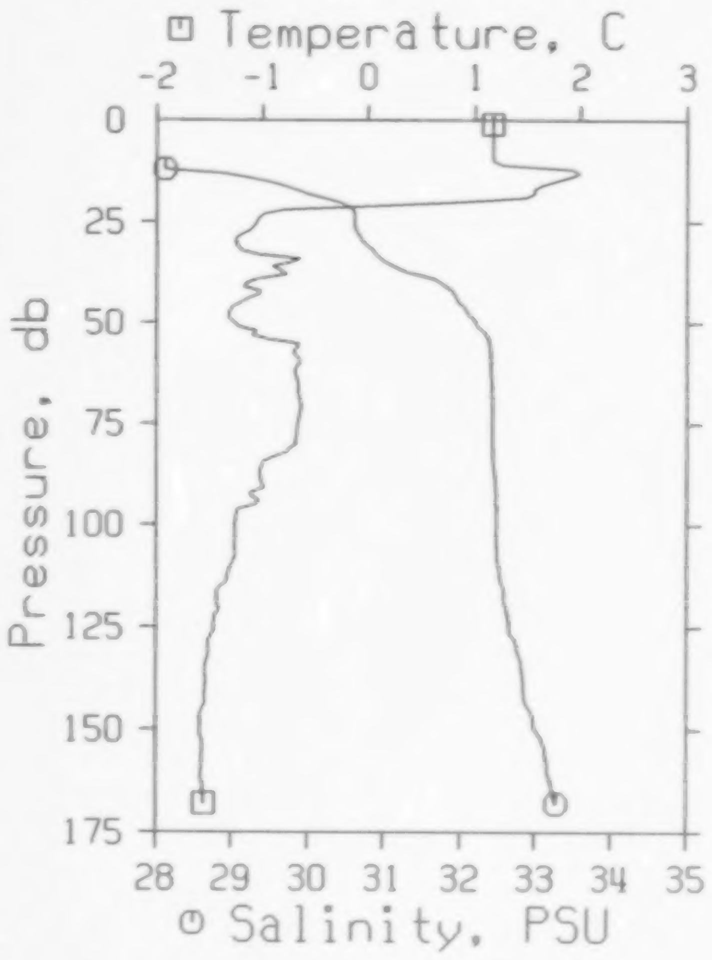
STATION : L064

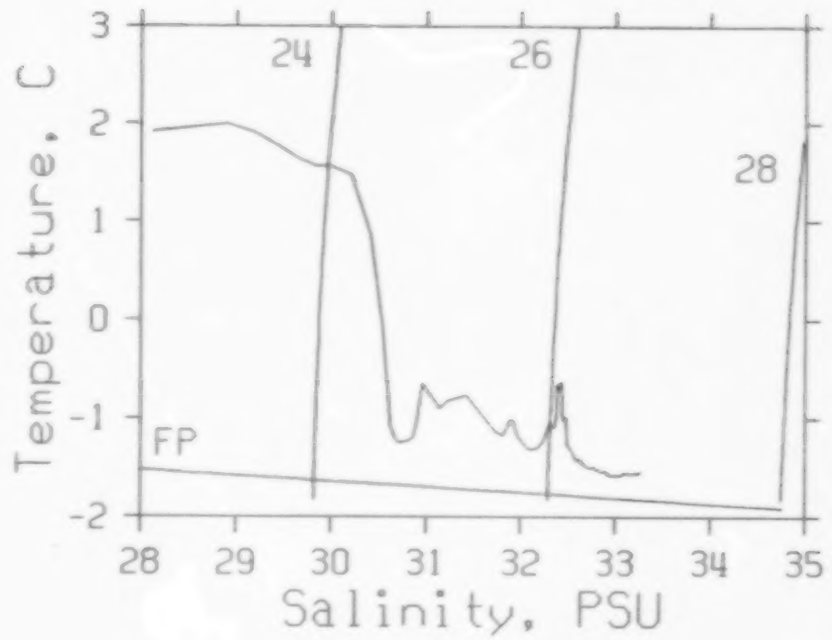
REFERENCE NO.: 90-70-073

DATE/TIME : 18/09/90 16:21 UTC

POSITION : 70-11.0N 137-54.2W

PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	1.169	1.169	26.993	21.63	619.0	.00	.00	1444
10	10	1.176	1.176	27.000	21.64	618.5	.62	.03	1444
20	20	.864	.863	30.413	24.39	355.2	1.08	.10	1447
30	30	-1.246	-1.247	30.737	24.73	322.8	1.41	.18	1438
50	49	-1.259	-1.260	32.214	25.93	208.9	1.93	.39	1440
75	74	-.670	-.672	32.432	26.09	193.9	2.42	.70	1444
100	99	-1.252	-1.254	32.484	26.15	188.1	2.89	1.12	1442
125	124	-1.452	-1.454	32.654	26.29	174.5	3.35	1.64	1441
150	148	-1.579	-1.582	33.002	26.58	147.3	3.75	2.20	1441
175	173	-1.520	-1.524	33.380	26.88	118.4	4.07	2.74	1443





NØGAP DATA REPØRT

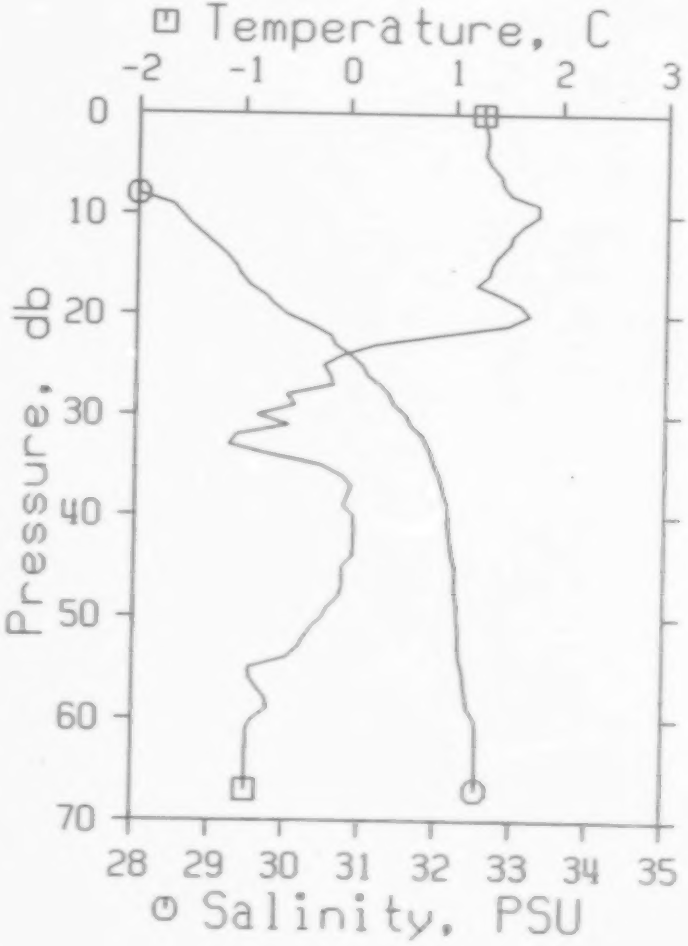
STATIØN : L065

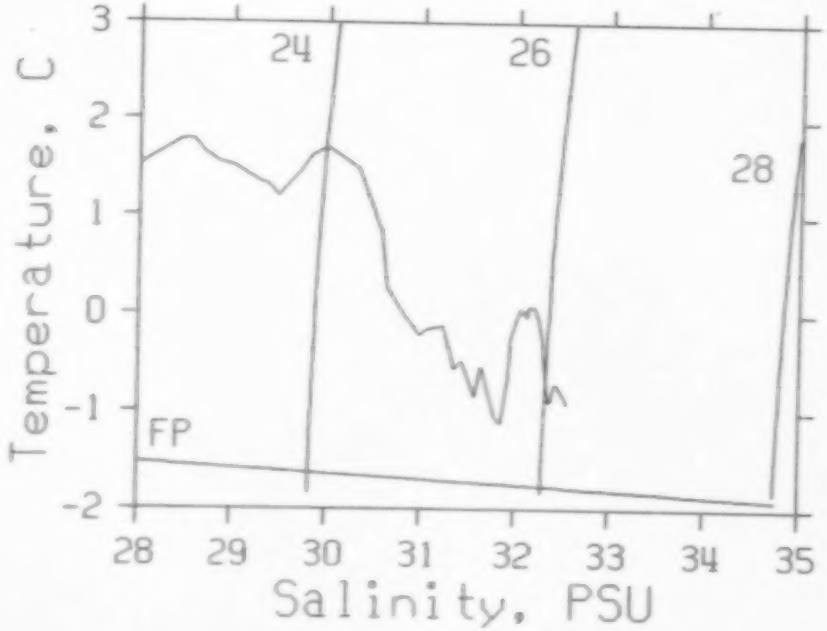
REFERENCE NØ.: 90-70-074

DATE/TIME : 18/09/90 17:06 UTC

PØSITIØN : 70- 9.0N 137-38.8W

PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	1.259	1.259	27.529	22.06	578.2	.00	.00	1445
10	10	1.788	1.787	28.579	22.87	500.5	.56	.03	1449
20	20	1.708	1.707	29.993	24.01	391.9	1.00	.09	1451
30	30	-.849	-.849	31.571	25.40	259.6	1.31	.17	1441
50	49	-.219	-.220	32.283	25.95	207.0	1.76	.35	1445
75	74	-1.132	-1.133	32.676	26.30	173.6	2.23	.65	1442





NØGAP DATA REPØRT

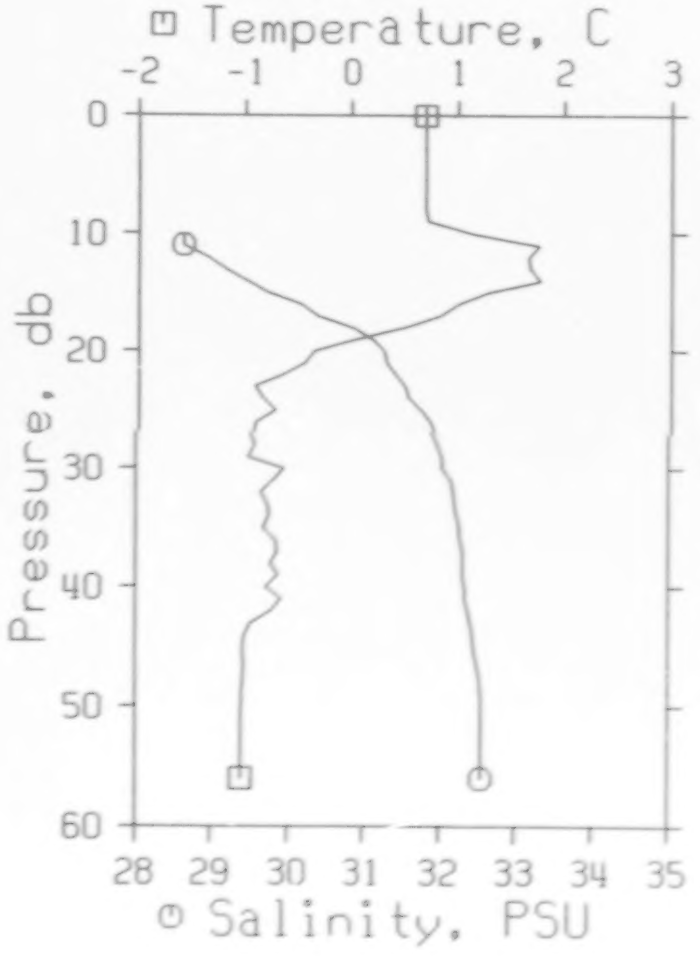
STATIØN : L066

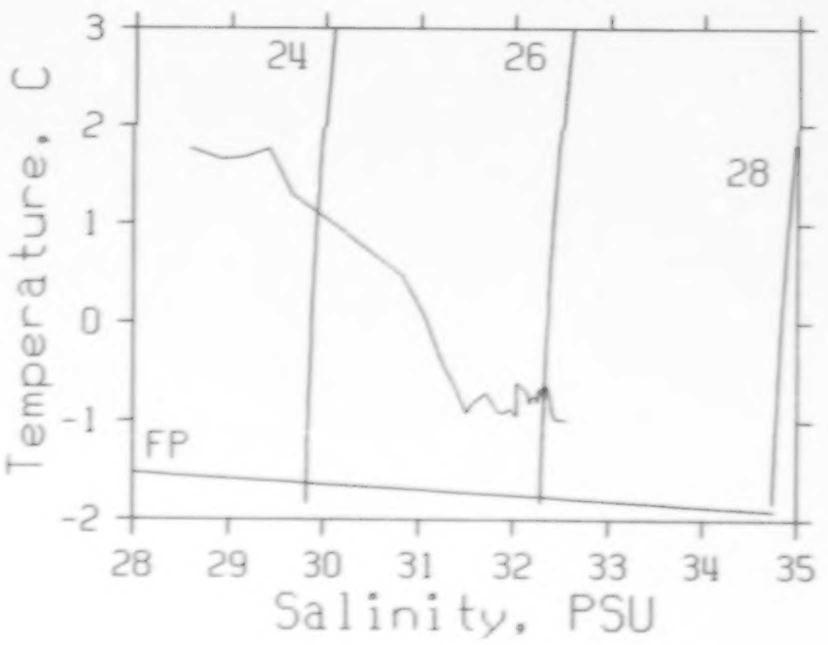
REFERENCE NØ.: 90-70-075

DATE/TIME : 18/09/90 17:41 UTC

PØSITIØN : 70- 7.0N 137-25.9

PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	.696	.696	26.348	21.13	666.8	.00	.00	1441
10	10	1.150	1.149	27.237	21.83	600.2	.66	.03	1444
20	20	-.347	-.347	31.233	25.10	287.2	1.07	.09	1443
30	30	-.609	-.610	32.039	25.77	224.3	1.32	.16	1443
50	49	-1.000	-1.001	32.553	26.20	183.5	1.72	.32	1442
56	55	-1.001	-1.002	32.553	26.20	183.5	1.83	.38	1442





NOGAP DATA REPORT

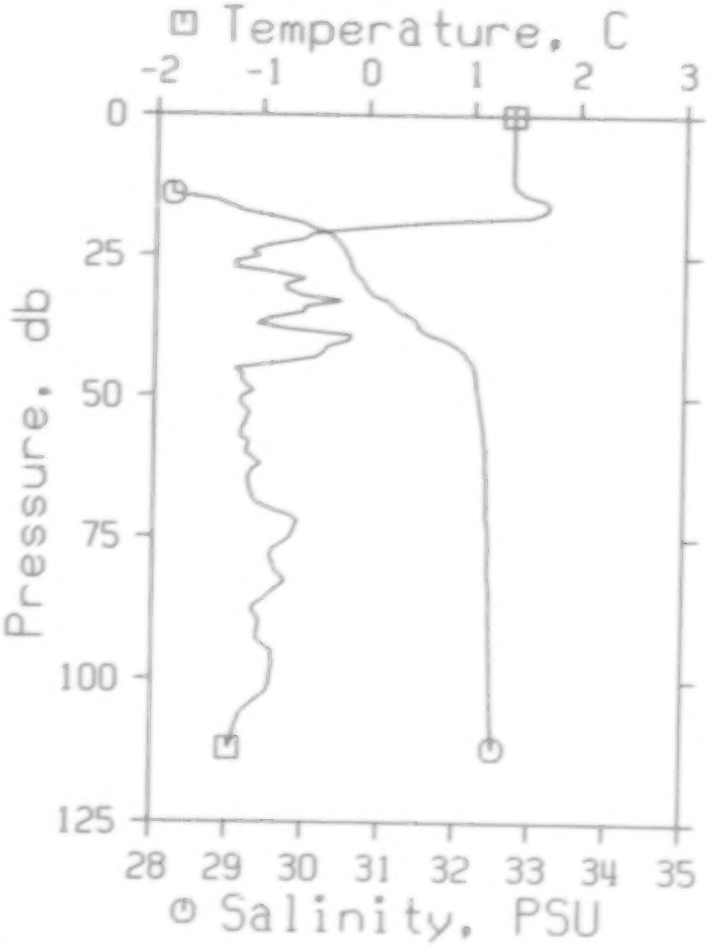
STATION : L067

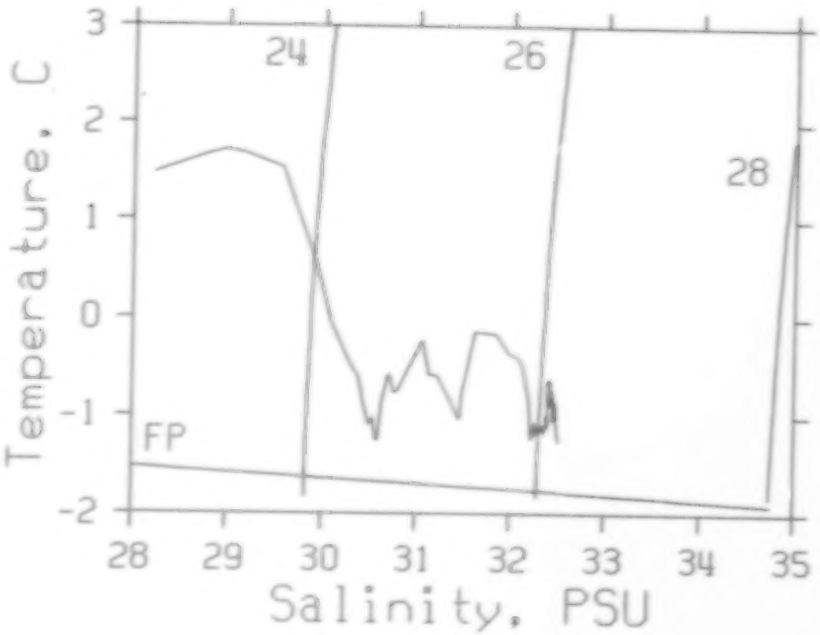
REFERENCE NO.: 90-70-076

DATE/TIME : 18/09/90 18:26 UTC

POSITION : 70- 4.0N 137-50.0W

PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	1.377	1.377	27.115	21.72	610.6	.00	.00	1445
10	10	1.376	1.375	27.128	21.73	609.6	.61	.03	1445
20	20	-.066	-.067	30.096	24.18	375.6	1.11	.11	1443
30	30	-.767	-.768	30.764	24.74	321.9	1.45	.19	1440
50	49	-1.168	-1.169	32.285	25.98	203.6	1.95	.39	1441
75	74	-.710	-.712	32.431	26.09	193.8	2.44	.70	1444
100	99	-.880	-.882	32.479	26.13	189.6	2.92	1.13	1443
112	111	-1.267	-1.269	32.520	26.18	185.3	3.15	1.37	1442





NOGAP DATA REPORT

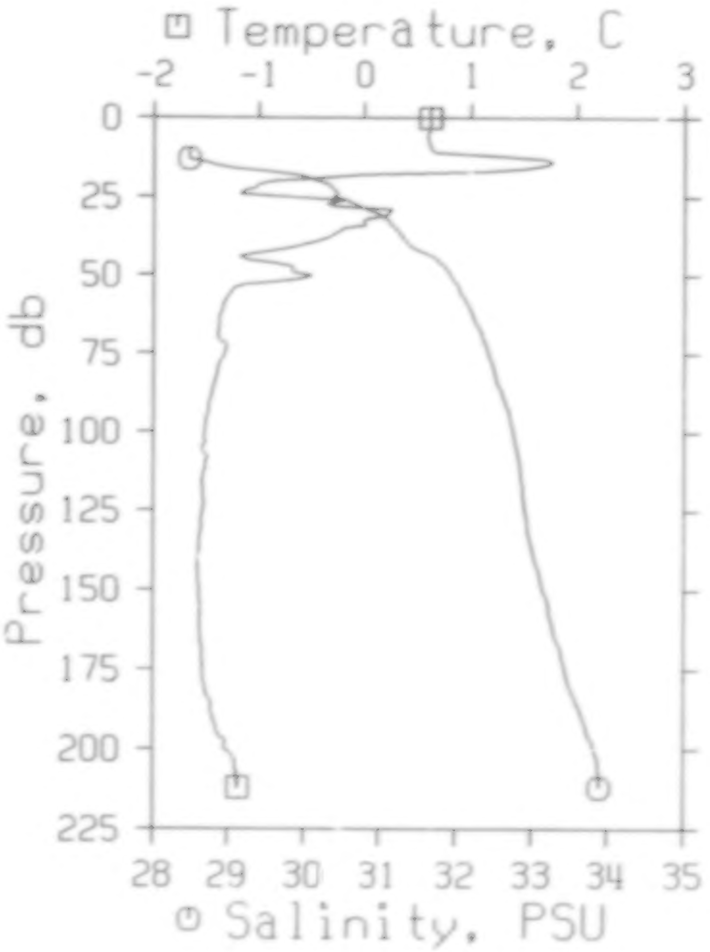
STATION : L068

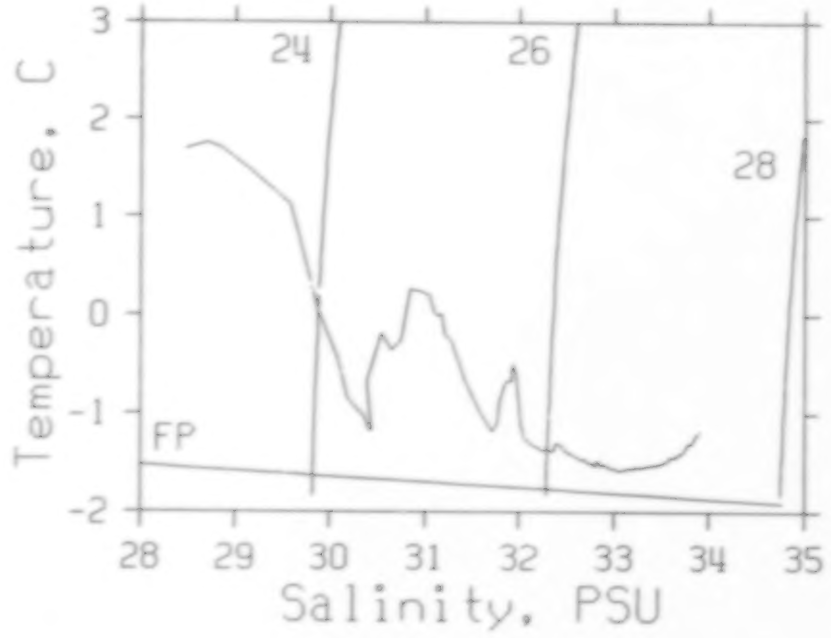
REFERENCE NO.: 90-70-077

DATE/TIME : 18/09/90 19:12 UTC

POSITION : 70- 1.0N 138-13.9W

PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	.620	.620	25.025	20.07	768.7	.00	.00	1439
10	10	.637	.637	25.128	20.15	760.7	.77	.04	1439
20	20	-.859	-.860	30.201	24.29	365.1	1.27	.11	1439
30	30	.240	.239	30.955	24.86	310.8	1.61	.20	1445
50	49	-.501	-.503	31.934	25.68	232.8	2.15	.42	1444
75	74	-1.319	-1.321	32.424	26.10	192.5	2.67	.74	1441
100	99	-1.505	-1.507	32.756	26.38	166.5	3.12	1.14	1441
125	124	-1.524	-1.527	32.910	26.50	154.6	3.51	1.59	1441
150	148	-1.557	-1.560	33.148	26.69	136.2	3.88	2.10	1442
175	173	-1.526	-1.530	33.441	26.93	113.7	4.19	2.61	1443
200	198	-1.309	-1.314	33.821	27.23	85.0	4.43	3.08	1445
212	210	-1.187	-1.192	33.901	27.30	79.2	4.53	3.28	1446





NOGAP DATA REPORT

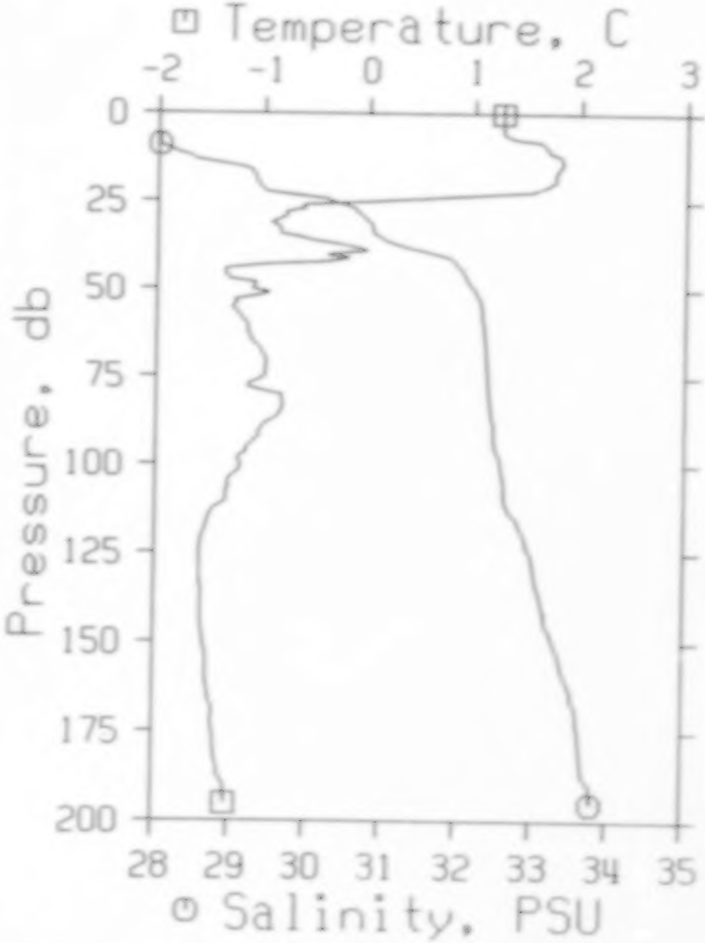
STATION : L069

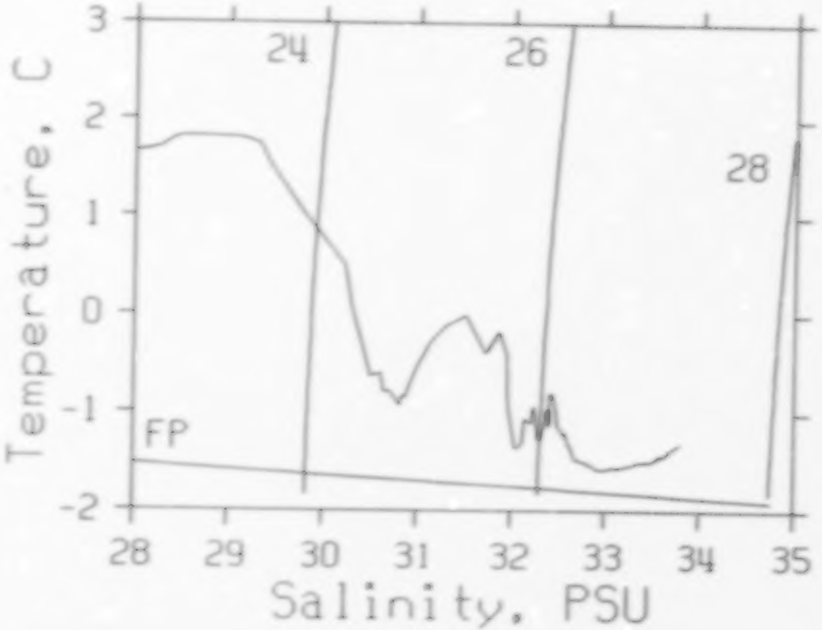
REFERENCE NO.: 90-70-078

DATE/TIME : 18/09/90 19:56 UTC

POSITION : 69-55.0N 138-12.1W

PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DTN. HT.	POT. EN.	SOUND SPEED
0	0	1.263	1.263	25.999	20.83	695.8	.00	.00	1443
10	10	1.685	1.684	28.148	22.53	532.9	.65	.03	1448
20	20	1.715	1.715	29.337	23.48	442.1	1.13	.10	1450
30	30	-.844	-.845	30.759	24.74	322.1	1.50	.20	1440
50	49	-1.098	-1.099	32.215	25.92	209.3	2.02	.40	1441
75	74	-.981	-.983	32.392	26.07	196.0	2.52	.72	1442
100	99	-1.204	-1.206	32.567	26.21	181.8	3.00	1.14	1442
125	124	-1.577	-1.579	32.972	26.55	149.7	3.42	1.62	1441
150	148	-1.533	-1.536	33.282	26.80	125.9	3.76	2.10	1442
175	173	-1.428	-1.432	33.634	27.09	99.1	4.03	2.55	1443
200	198	-1.258	-1.263	33.902	27.30	78.9	4.26	2.98	1445





NØGAP DATA REPØRT

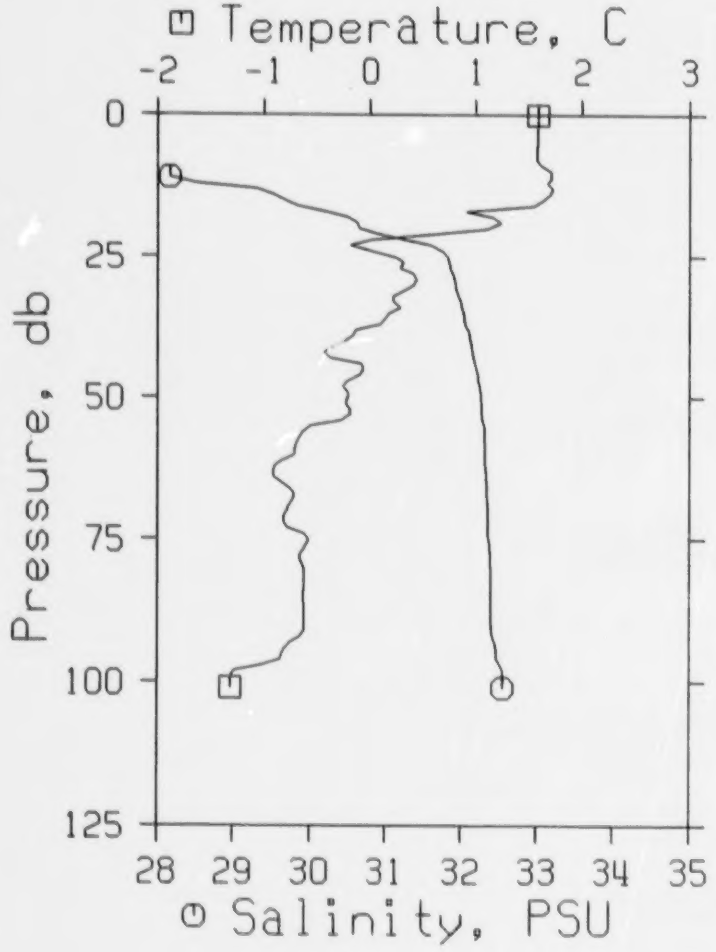
STATIØN : L070

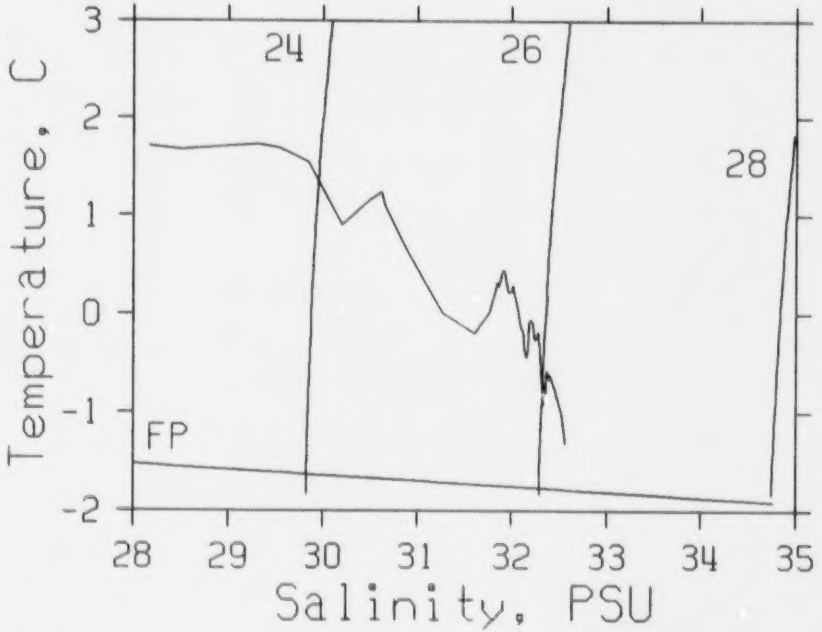
REFERENCE NØ.: 90-70-079

DATE/TIME : 18/09/90 20:51 UTC

PØSITIØN : 69-50.0N 137-50.2W

PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	1.587	1.587	26.958	21.58	623.6	.00	.00	1446
10	10	1.709	1.709	27.872	22.31	554.1	.62	.03	1448
20	20	1.108	1.108	30.660	24.58	337.5	1.04	.09	1449
30	30	.411	.410	31.934	25.64	236.5	1.30	.16	1447
50	49	-.212	-.213	32.264	25.93	208.5	1.74	.34	1445
75	74	-.578	-.580	32.372	26.03	198.8	2.25	.66	1444
100	99	-1.310	-1.312	32.559	26.21	182.2	2.73	1.09	1441
101	100	-1.310	-1.312	32.555	26.21	182.5	2.75	1.11	1441





NØGAP DATA REPØRT

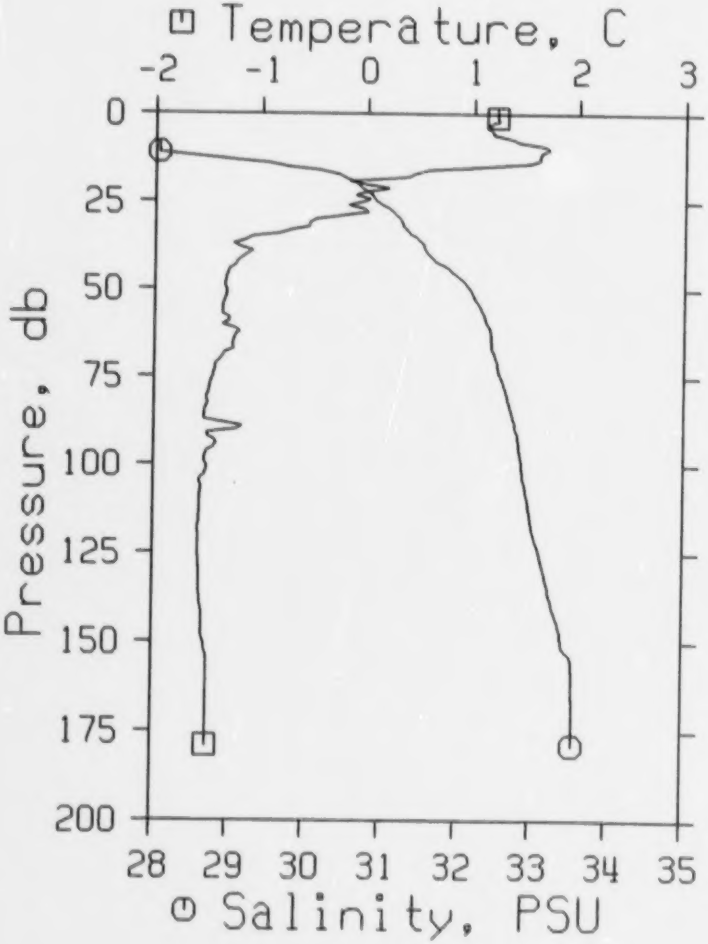
STATIØN : L071

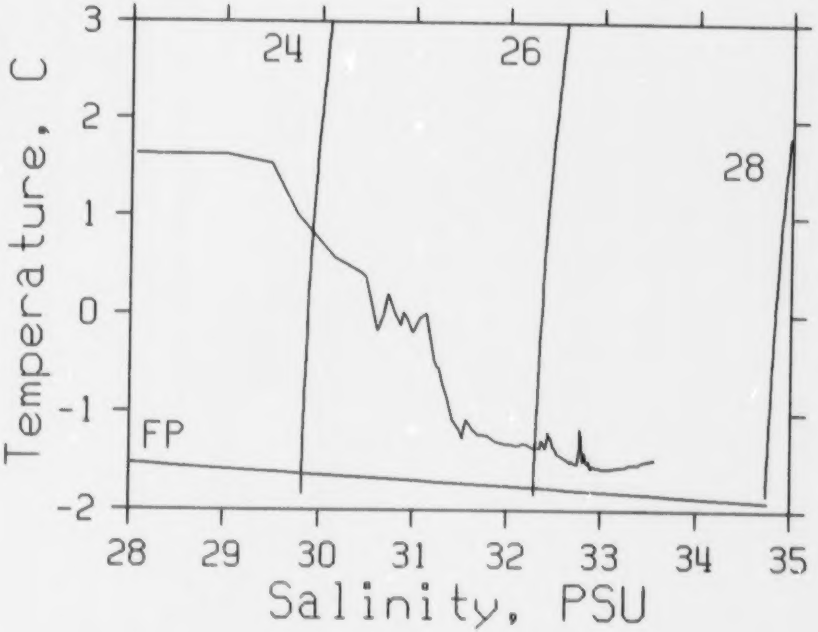
REFERENCE NØ.: 90-70-080

DATE/TIME : 18/09/90 21:44 UTC

PØSITIØN : 69-48.0N 138-22.0W

PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	1.217	1.217	25.357	20.32	745.1	.00	.00	1442
10	10	1.715	1.714	27.899	22.33	552.1	.71	.03	1448
20	20	-.005	-.005	30.678	24.64	331.1	1.13	.10	1444
30	30	-.482	-.483	31.231	25.11	286.9	1.44	.17	1442
50	49	-1.321	-1.322	32.161	25.89	212.8	1.94	.38	1440
75	74	-1.444	-1.445	32.581	26.23	180.2	2.43	.68	1440
100	99	-1.496	-1.498	32.868	26.47	157.9	2.84	1.05	1441
125	124	-1.569	-1.571	33.111	26.67	139.0	3.21	1.48	1441
150	148	-1.509	-1.512	33.420	26.91	115.3	3.53	1.92	1442
175	173	-1.478	-1.482	33.566	27.03	104.2	3.79	2.35	1443
179	177	-1.478	-1.482	33.566	27.03	104.2	3.83	2.42	1443





NOGAP DATA REPORT

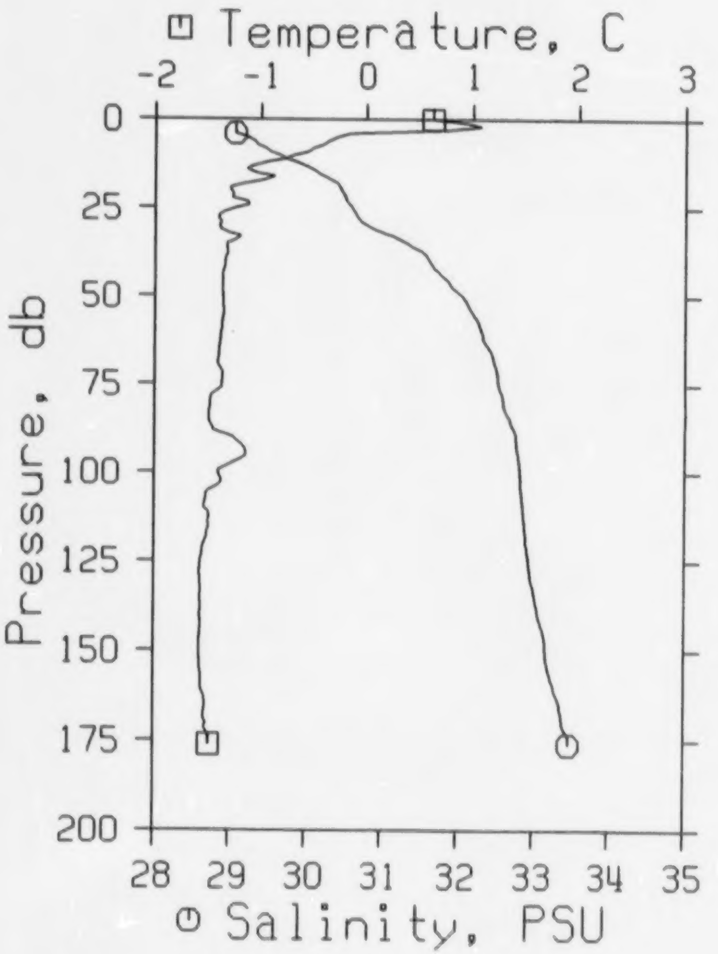
STATION : L072

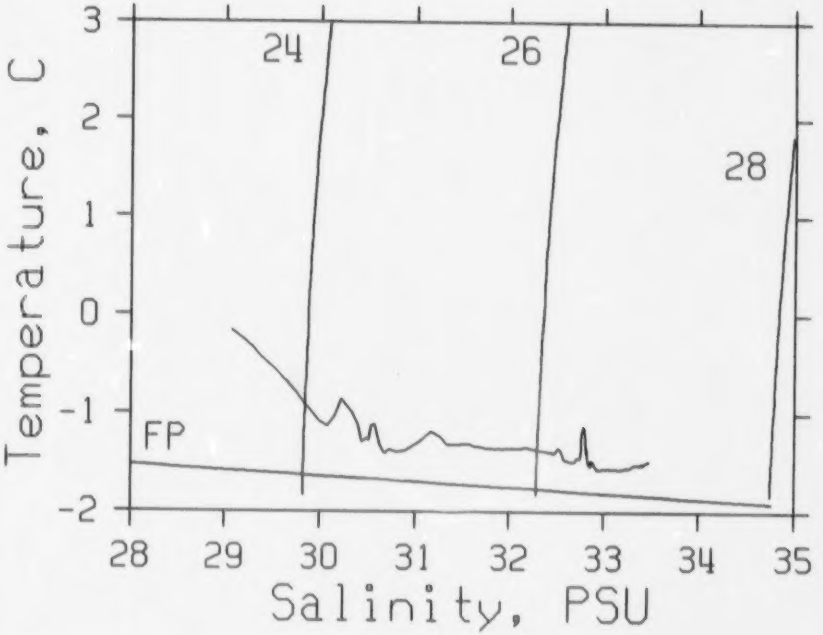
REFERENCE NO.: 90-70-081

DATE/TIME : 18/09/90 22:21 UTC

POSITION : 69-48.0N 138-40.5W

PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	.625	.625	27.037	21.69	613.5	.00	.00	1441
10	10	-.673	-.674	29.643	23.83	408.7	.49	.02	1439
20	20	-1.275	-1.276	30.467	24.51	343.7	.86	.08	1437
30	30	-1.391	-1.392	30.809	24.79	317.0	1.19	.16	1437
50	49	-1.354	-1.354	32.064	25.81	220.2	1.70	.37	1440
75	74	-1.361	-1.363	32.536	26.19	183.8	2.20	.68	1441
100	99	-1.396	-1.398	32.822	26.43	161.7	2.62	1.06	1441
125	124	-1.566	-1.568	32.937	26.52	152.4	3.02	1.51	1441
150	148	-1.568	-1.571	33.167	26.71	134.7	3.37	2.01	1442
175	173	-1.478	-1.482	33.482	26.96	110.6	3.68	2.51	1443
176	174	-1.477	-1.481	33.481	26.96	110.7	3.69	2.53	1443





NØGAP DATA REPØRT

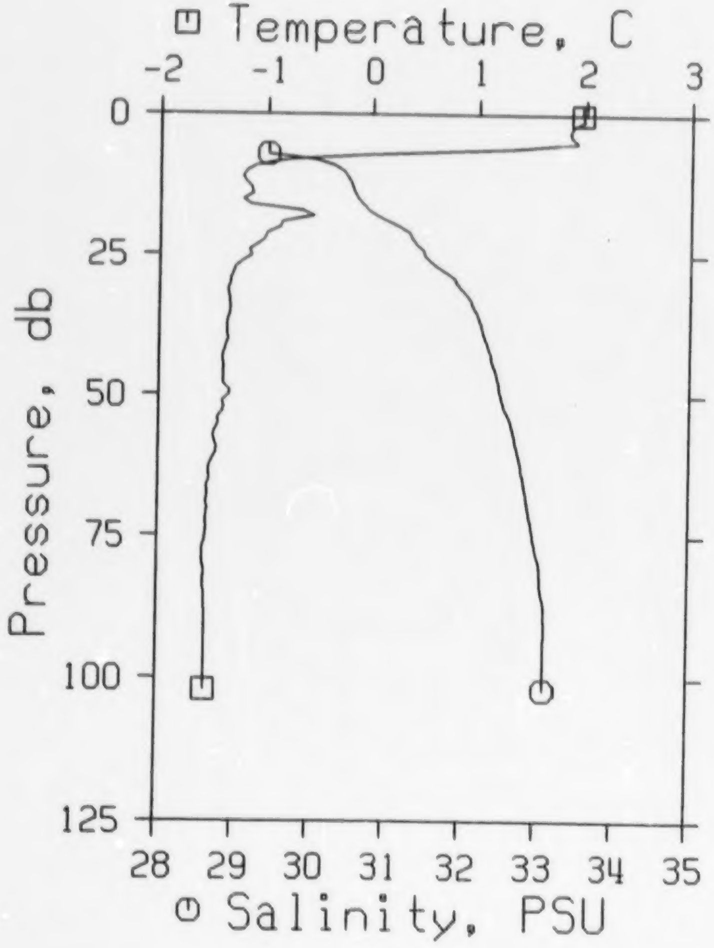
STATIØN : L073

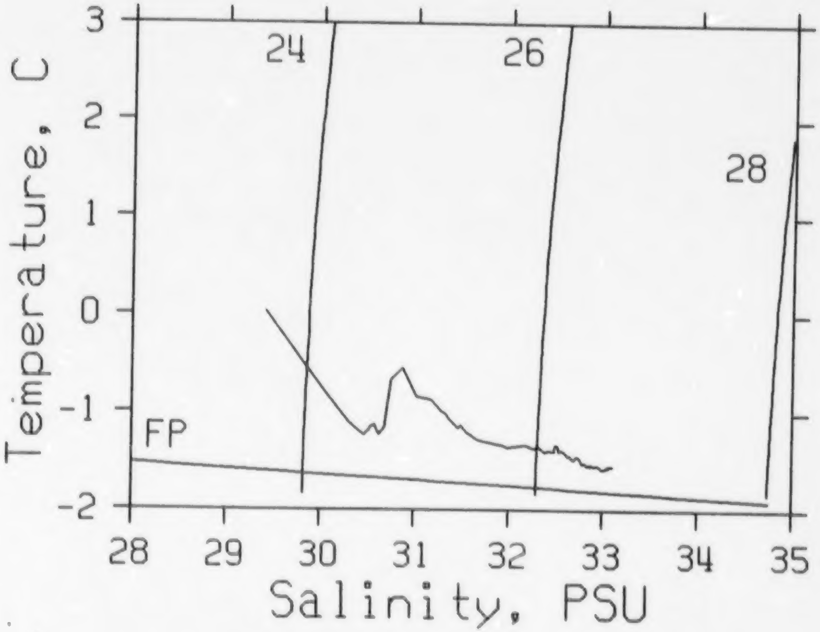
REFERENCE NØ.: 90-70-082

DATE/TIME : 18/09/90 23:04 UTC

PØSITIØN : 69-41.0N 138-44.2

PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	1.961	1.961	25.368	20.29	747.5	.00	.00	1445
10	10	-1.191	-1.191	30.412	24.47	348.0	.60	.03	1438
20	20	-.874	-.874	31.184	25.08	289.3	.93	.08	1440
30	30	-1.336	-1.337	31.932	25.70	230.4	1.19	.14	1439
50	49	-1.342	-1.343	32.518	26.18	185.2	1.60	.30	1440
75	74	-1.549	-1.550	32.953	26.54	151.2	2.01	.57	1440
100	99	-1.548	-1.550	33.110	26.66	139.1	2.36	.88	1441
102	101	-1.547	-1.549	33.110	26.66	139.1	2.39	.91	1441





NOGAP DATA REPORT

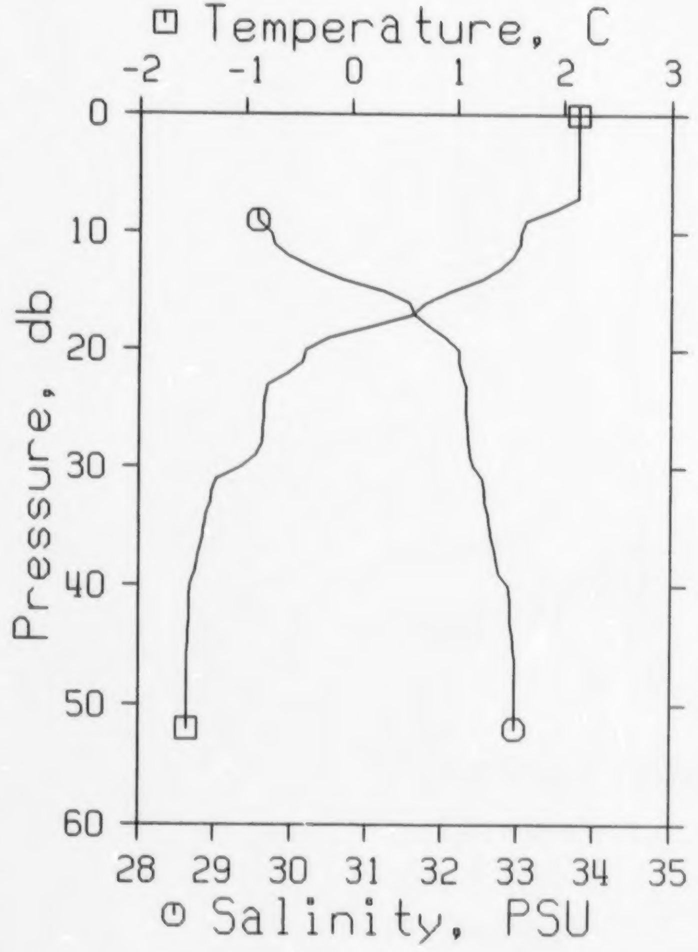
STATION : L074

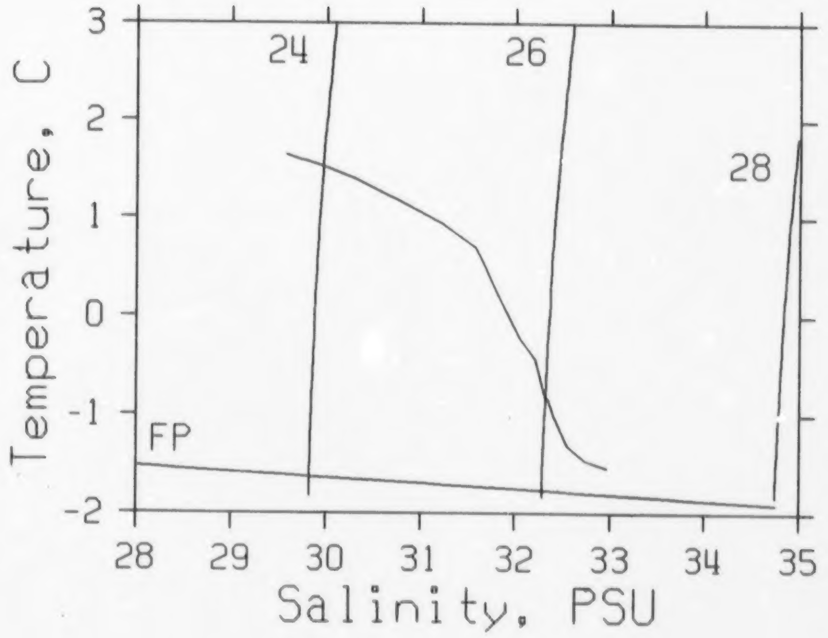
REFERENCE NO.: 90-70-083

DATE/TIME : 18/09/90 23:36 UTC

POSITION : 69-38.0 138-45.2W

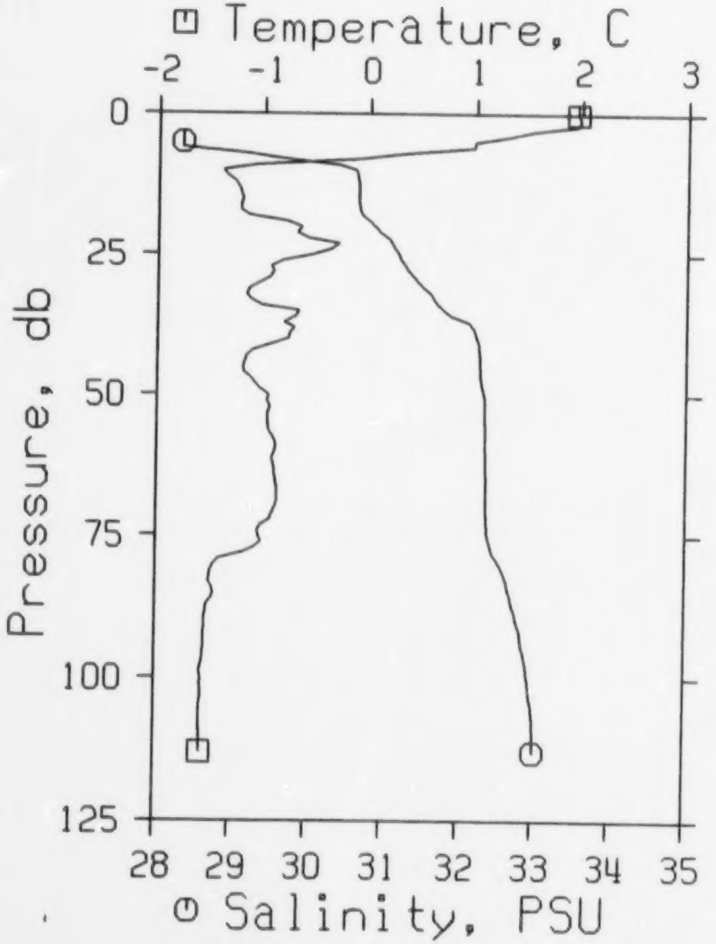
PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	2.138	2.138	26.009	20.79	699.2	.00	.00	1447
10	10	1.591	1.590	29.736	23.81	410.9	.64	.03	1450
20	20	-.432	-.433	32.217	25.90	211.3	.95	.08	1444
30	30	-1.034	-1.035	32.419	26.09	193.7	1.15	.13	1441
50	49	-1.540	-1.541	32.970	26.55	149.9	1.48	.26	1440
52	51	-1.539	-1.540	32.968	26.55	150.1	1.51	.27	1440

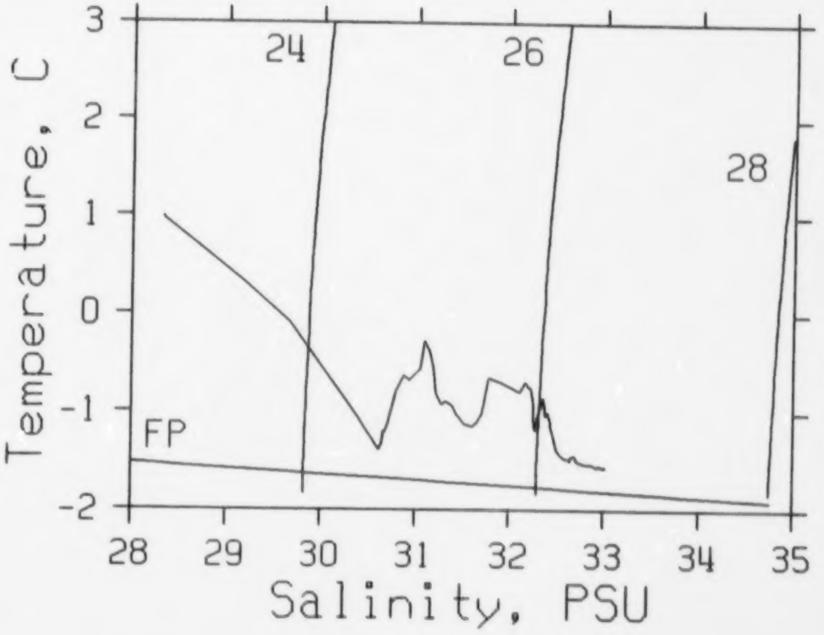




NØGAP DATA REPORT
STATIØN : L075
REFERENCE NØ.: 90-70-084
DATE/TIME : 19/09/90 00:14 UTC
PØSITIØN : 69-36.0N 138-31.0W

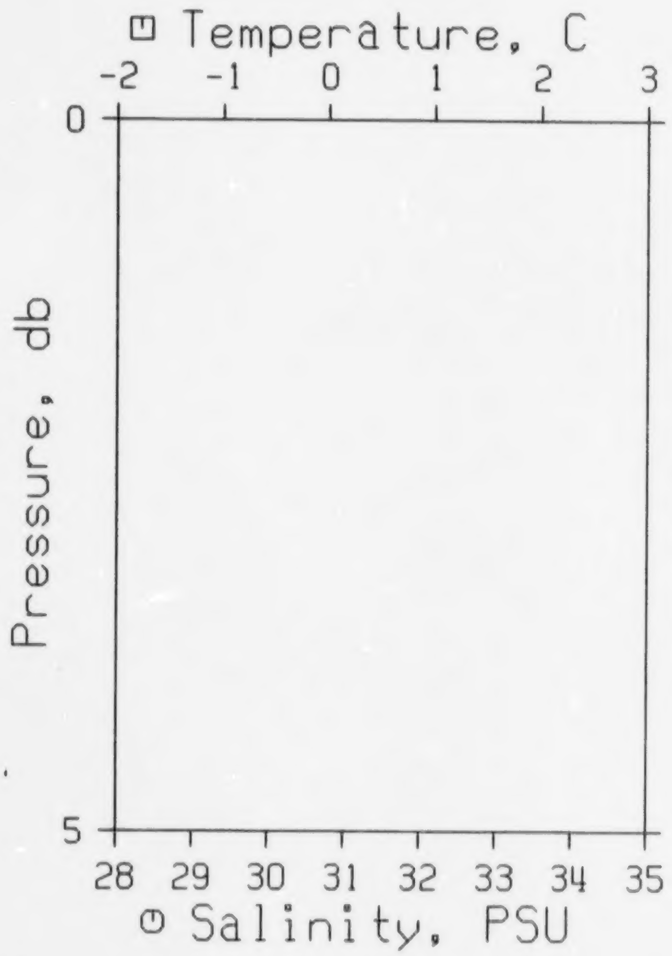
PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	1.957	1.957	26.252	21.00	679.6	.00	.00	1446
10	10	-1.385	-1.385	30.615	24.64	332.0	.52	.02	1437
20	20	-.636	-.636	30.878	24.83	313.6	.85	.07	1441
30	30	-1.038	-1.038	31.456	25.31	267.9	1.14	.15	1440
50	49	-.939	-.940	32.325	26.01	201.2	1.58	.32	1442
75	74	-1.026	-1.028	32.389	26.06	196.0	2.08	.64	1442
100	99	-1.550	-1.552	32.942	26.53	152.1	2.50	1.02	1441
113	112	-1.556	-1.558	33.020	26.59	146.0	2.69	1.22	1441

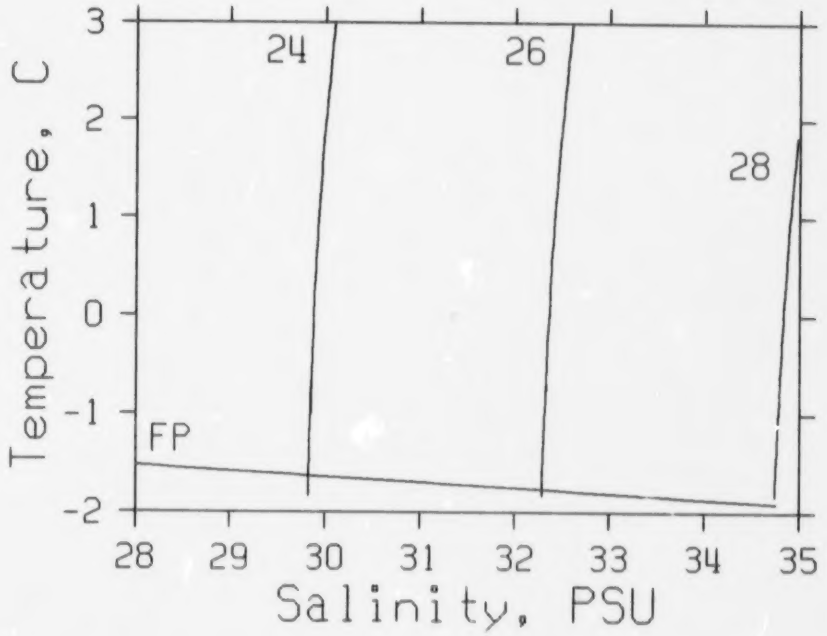




NOGAP DATA REPORT
STATION : L076
REFERENCE NO.: 90-70-085
DATE/TIME : 19/09/90 00:50 UTC
POSITION : 69-34.2N 138-42.9W

PRESS	DEPTH	TEMP	THETA	SAL	SIGMA T	SVAN	DYN. HT.	POT. EN.	SOUND SPEED
0	0	1.904	1.904	27.916	22.33	551.8	.00	.00	1448





5 APPENDIX 2; CHEMICAL DATA TABLES AND PLOTS

STATION #: A01 DATE: 31/08/91 TIME: 1705 (Z+6)
DEPTH: 3325m
LATITUDE 72 34.05 N LONGITUDE: 143 28.40 W

DEPTH m	SAMPLE #	TEMP Deg C	SALINITY x10^3	OXYGEN mmol/m3	PHOSPHATE mmol/m3	SILICATE mmol/m3	NITRATE mmol/m3	PHAEO A mg/m3	CHLA mg/m3	TSS mg/m3
0	L1	-0.90	21.525	381.2	0.41	4.8	0.0	0.111	0.119	34
10	L2	-0.33	26.437	396.2	0.63	3.3	0.0			
20	L3	-1.11	30.066	411.3	0.75	3.5	0.0			
30	L4	-1.28	30.378	413.3	0.76	3.2	0.2	0.027	0.085	17
40	L5	-1.30	30.650	412.1	0.78	3.5	0.1			
50	L6	-1.14	31.367	415.5		4.4	0.0	0.064	0.091	14
60	L7	-1.18	31.669	396.5	0.99	8.0	2.1			
70	L8	-1.22	31.963	358.1	1.28	14.3	6.6			
80	L9	-1.27	32.256	330.0	1.48	19.7	9.9			
100	L10	-1.38	32.489	311.3	1.68	25.4	12.4			
117	L11	-1.41	32.605	298.3	1.79	28.6	14.0	0.019	0.056	25
136	L12	-1.43	32.699	289.1	1.89	31.9	15.3			
146	L13	-1.44	32.750	286.2	1.91	33.1	15.8	0.012	0.012	47
156	L14	-1.49	32.816	284.4	1.95	34.7	16.3			
166	L15	-1.48	32.855	282.1	2.01	35.9	16.6			
175	L16	-1.51	32.897	280.4	1.99	36.5	16.8			
185	L17	-1.51	32.947	280.5	2.04	37.2	17.0			
195	L18	-1.50	32.983	280.1	2.01	38.3	17.2	0.021	0.010	58
219	L19	-1.51	33.266	281.6	1.90	36.2	16.3			
244	L20	-1.19	33.739	266.4	1.73	33.4	16.5			
257	L21	-0.93	34.042		1.53	28.2	16.0			
280	L22	-0.48	34.406	261.8	1.27	21.7	15.1			30
303	L23	-0.18	34.587	267.7	1.12	17.0	14.4			

STATION #: A01 DATE: 31/08/91 TIME: 1705 (Z+6)
DEPTH: 3325m
LATITUDE 72 34.05 N LONGITUDE: 143 28.40 W

DEPTH m	SAMPLE #	TEMP Deg C	SALINITY x10^3	OXYGEN mmol/m3	PHOSPHATE mmol/m3	SILICATE mmol/m3	NITRATE mmol/m3	PHAEO A mg/m3	CHLA mg/m3	TSS mg/m3
327	L24	-0.01	34.664	274.9	1.03	14.0	13.8			
350	L25	0.15	34.673	282.5	0.99	12.1	13.6			
373	L26	0.25	34.757	285.9	0.95	11.2	13.4			53
420	L27	0.39	34.808	292.5	0.90	9.2	13.4			
467	L28	0.44	34.827	293.7	0.90	8.8	13.0			20
513	L29	0.47	34.850	294.7	0.89	8.7	13.2			
560	L30	0.47	34.861	296.0	0.89	8.6	13.1			
700	L31	0.37	34.870	300.4	0.90	8.3	12.9			18
800	L32	0.31	34.885	303.0	0.90	8.0	13.2			
900	L33	0.13	34.893	302.1	0.90	7.9	12.9			
1000	L34			306.5	0.91	8.1	13.2			23
1250	L35	-0.18	34.915	305.3	0.94	8.7	13.3			
1500	L36	-0.33	34.917	304.8	0.95	9.6	13.9			9
1600	L37	-0.40	34.927	301.5	0.96	10.0	14.0			
1700	L38	-0.38	34.938	302.6	0.99	10.6	14.3			
1800	L39	-0.40	34.941	302.4	0.99	10.9	14.2			
1900	L40	-0.39	34.940	300.0	1.01	11.4	14.6			
2000	L41	-0.41	34.954	298.6	1.01	12.0	14.4			15
2250	L42	-0.40	34.958	295.3	1.02	12.7	14.6			
2500	L43	-0.38	34.947	292.8	1.04	13.2	14.8			
3000	L44	-0.36	34.961	291.5	1.03	14.2	15.0			10
3200	L46	-0.32	34.957	289.9	1.04	14.3	15.0			
3300	L47	-0.29	34.961	291.0	1.04	14.1	15.0			12

STATION #: L011 DATE: 11/09/90 TIME: 1211 (Z+6)
DEPTH: 23m
LATITUDE 72 05.53 N LONGITUDE: 126 20.24 W

DEPTH m	SAMPLE #	TEMP Deg C	SALINITY x10^3	OXYGEN mmol/m3	PHOSPHATE mmol/m3	SILICATE mmol/m3	NITRATE mmol/m3
0	L48	-1.44	28.798	393.9	0.71	3.6	0.0
5	L49	-1.37	28.851	398.2	0.71	3.5	0.0
10	L50	-1.33	29.138	400.1	0.72	3.7	0.0
20	L51	-0.67	30.989	442.7	0.84	4.4	0.0

STATION #: L012 DATE: 11/09/90 TIME: 1450 (Z+6)

DEPTH: 110m

LATITUDE 72 05.60 N LONGITUDE: 127 01.99 W

DEPTH m	SAMPLE #	TEMP Deg C	SALINITY x10^3	OXYGEN mmol/m3	PHOSPHATE mmol/m3	SILICATE mmol/m3	NITRATE mmol/m3
0	L52	-1.45	28.243	396.3	0.70	3.6	0.0
5	L53	-1.43	28.251	396.4	0.69	3.6	0.0
10	L54	-1.42	29.359	411.1	0.74	4.0	0.0
20	L55	-1.33	30.957	423.2	0.81	4.9	0.0
30	L56	-1.35	31.542	421.8	0.90	6.3	0.5
50	L57	-1.37	32.464	322.5	1.54	21.6	9.7
75	L58	-1.38	32.810	287.7	1.75	28.4	13.9
100	L59	-1.41	33.013	274.0	1.84	32.5	15.4

STATION #: L013 DATE: 11/09/90 TIME: 1750 (Z+6)
DEPTH: 371m
LATITUDE 72 07.80 N LONGITUDE: 127 39.174

DEPTH m	SAMPLE #	TEMP Deg C	SALINITY x10^3	OXYGEN mmol/m3	PHOSPHATE mmol/m3	SILICATE mmol/m3	NITRATE mmol/m3
0	L60	−1.24	25.098	401.9	0.59	3.5	0.0
5	L61	−1.44	27.941	396.9	0.68	3.6	0.0
10	L62	−1.45	28.023	396.7	0.68	3.6	0.0
20	L63	−1.53	30.278	423.0	0.79	4.3	0.0
30	L64	−1.44	31.306	428.7	0.86	5.2	0.0
50	L65	−1.66	31.826	408.3	1.03	8.8	2.7
75	L66	−1.54	32.264	343.3	1.49	20.0	9.1
100	L67	−1.47	32.720	291.4	1.83	30.9	14.1
125	L68	−1.50	33.021	278.4	1.97	37.2	16.8
150	L69	−1.37	33.333	264.3	1.88	36.1	16.6
200	L70	−0.67	34.105	232.9	1.62	32.9	17.4
250	L71	−0.07	34.576	230.4	1.35	27.6	16.9
300	L72	0.19	34.739	242.1	1.20	24.0	16.2
350	L73	0.27	34.795	263.9	1.09	18.0	14.9

STATION #: L014 DATE: 12/09/90 TIME: 0838 (Z+6)
DEPTH: 112m
LATITUDE 73 11.55 N LONGITUDE: 126 29.28 W

DEPTH m	SAMPLE #	TEMP Deg C	SALINITY x10^3	OXYGEN mmol/m3	PHOSPHATE mmol/m3	SILICATE mmol/m3	NITRATE mmol/m3
0	L74	-1.50	28.773	403.8	0.71	3.9	0.0
5	L75	-1.48	28.749	404.3	0.70	3.9	0.0
10	L76	-1.50	28.750	402.7	0.72	3.9	0.0
20	L77	-1.41	30.118	415.3	0.77	4.2	0.0
30	L78	-1.38	31.650	435.6	0.87	4.7	0.0
50	L79	-1.53	32.184	356.4	1.40	16.8	7.6
75	L80	-1.48	32.632	301.5	1.77	27.4	13.3
100	L81	-1.43	32.945	274.8	1.94	35.4	16.0

STATION #: L015 DATE: 12/09/90 TIME: 1223 (Z+6)

DEPTH: 81m

LATITUDE 73 19.25 N LONGITUDE: 125 48.61 W

DEPTH m	SAMPLE #	TEMP Deg C	SALINITY x10^3	OXYGEN mmol/m3	PHOSPHATE mmol/m3	SILICATE mmol/m3	NITRATE mmol/m3
0	L82	-1.60	29.777	402.4	0.75	4.0	0.0
5	L83	-1.57	29.777	402.8	0.80	4.0	0.0
10	L84	-1.57	29.825	403.0	0.77	4.0	0.0
20	L85	-1.61		407.8	0.78	4.0	0.0
30	L86	-1.27	31.161	427.7	0.83	4.5	0.0
50	L87	-1.49	31.991	394.8	1.15	7.8	3.5
75	L88	-1.47	32.502	247.8	1.75	27.4	11.4

STATION #: L016 DATE: 12/09/90 TIME: 1506 (Z+6)
DEPTH: 43m
LATITUDE 72 55.958 N LONGITUDE: 126 12.851

DEPTH m	SAMPLE #	TEMP Deg C	SALINITY x10^3	OXYGEN mmol/m3	PHOSPHATE mmol/m3	SILICATE mmol/m3	NITRATE mmol/m3
0	L89	-1.50	29.645	396.8	0.74	4.0	0.0
5	L90	-1.50	29.662	395.4	0.75	4.0	0.0
10	L91	-1.51	29.758	396.4	0.76	4.0	0.0
20	L92	-1.33	30.623	412.6	0.79	4.1	0.0
30	L93	-1.23	31.770	426.6	0.99	6.3	0.6

STATION #: L021 DATE: [illegible]4/09/90 TIME: 0920 (Z+6)
DEPTH: [illegible]
LATITUDE 69 51.[illegible] N LONGITUDE: 133 19.17 W

DEPTH m	SAMPLE #	TEMP Deg C	SALINITY x10^3	OXYGEN mmol/m3	PHOSPHATE mmol/m3	SILICATE mmol/m3	NITRATE mmol/m3
0	L94	3.71	12.938	429.2	0.33	38.0	3.8
5	L95	2.27	28.100	396.4	0.64	15.3	1.7
10	L96	2.07	29.261	389.4	0.82	10.4	0.9

STATION #: L022 DATE: 14/09/90 TIME: 1030 (Z+6)

DEPTH: 21m

LATITUDE 69 55.28 N LONGITUDE: 133 23.39 W

DEPTH m	SAMPLE #	TEMP Deg C	SALINITY x10^3	OXYGEN mmol/m3	PHOSPHATE mmol/m3	SILICATE mmol/m3	NITRATE mmol/m3
0	L97	3.19	20.679	360.1	0.49	25.4	2.6
5	L98	2.14	28.727	344.6	0.78	11.9	1.0
10	L99	2.09	29.224	343.6	0.79	10.7	0.8
15	L100	2.05	29.410	343.6	0.80	9.9	0.8

STATION #: L023 DATE: 14/09/90 TIME: 1138 (Z+6)
DEPTH: 31m
LATITUDE 70 01.63 N LONGITUDE: 133 24.43 W

DEPTH m	SAMPLE #	TEMP Deg C	SALINITY x10^3	OXYGEN mmol/m3	PHOSPHATE mmol/m3	SILICATE mmol/m3	NITRATE mmol/m3
0	L101	2.63	28.760	352.5	0.66	7.4	0.2
5	L102	2.43	28.999	349.5	0.64	7.1	0.0
10	L103	2.34	29.278	345.0	0.70	7.6	0.4
20	L104	1.75	30.861	339.1	0.92	7.6	0.7
25	L105	1.74	30.999	337.4	0.93	9.0	0.8

STATION #: L024 DATE: 14/09/90 TIME: 1252 (Z+6)

DEPTH: 41m

LATITUDE 70 08.30 N LONGITUDE: 133 26.03 W

DEPTH m	SAMPLE #	TEMP Deg C	SALINITY x10^3	OXYGEN mmol/m3	PHOSPHATE mmol/m3	SILICATE mmol/m3	NITRATE mmol/m3
0	L106	1.98	28.115	354.8	0.58	2.7	0.0
5	L107	2.23 *	28.110	355.4	0.57	2.7	0.0
10	L108	2.21	28.421	353.6	0.57	2.4	0.0
20	L109	1.34	31.158	343.5	0.90	7.7	0.8
30	L110	-0.04	31.574	331.4	1.12	13.7	2.6

STATION #: L025 DATE: 14/09/90 TIME: 1520 (Z+6)
DEPTH: 50m
LATITUDE 70 13.12 N LONGITUDE: 133 33.73 W

DEPTH m	SAMPLE #	TEMP Deg C	SALINITY x10^3	OXYGEN mmol/m3	PHOSPHATE mmol/m3	SILICATE mmol/m3	NITRATE mmol/m3
0	L111	1.96	28.039	355.7	0.59	3.0	0.0
5	L112	1.92	28.043	356.3	0.59	2.9	0.0
10	L113	2.17	28.667	354.8	0.56	2.9	0.0
20	L114	0.58	31.298	403.3	0.76	5.0	0.0
30	L115	-1.14	31.653	370.5	1.03	11.9	2.0
45	L116	-1.25	32.011	310.3	1.43	22.7	6.5

STATION #: L026 DATE: 14/09/90 TIME: 1647 (Z+6)
DEPTH: 53m
LATITUDE 70 18.20 N LONGITUDE: 133 40.20 W

DEPTH m	SAMPLE #	TEMP Deg C	SALINITY x10^3	OXYGEN mmol/m3	PHOSPHATE mmol/m3	SILICATE mmol/m3	NITRATE mmol/m3
0	L117	1.19	27.614	360.9	0.57	3.0	0.0
5	L118	1.26	27.688	361.7	0.58	3.0	0.0
10	L119	1.30	27.862	362.5	0.58	3.0	0.0
20	L120	−0.27	31.106	413.1	0.77	4.7	0.0
30	L121	−0.97	31.538	391.3	0.92	9.4	0.0
50	L122	−1.34	32.146	294.0	1.59	26.0	8.1

STATION #: L027 DATE: 14/09/90 TIME: 1807 (Z+6)
DEPTH: 58m
LATITUDE 70 23.37 N LONGITUDE: 133 46.14 W

DEPTH m	SAMPLE #	TEMP Deg C	SALINITY x10^3	OXYGEN mmol/m3	PHOSPHATE mmol/m3	SILICATE mmol/m3	NITRATE mmol/m3
0	L123	1.09	27.511	360.9	0.55	2.9	0.0
5	L124	1.16	27.705	359.5	0.55	2.8	0.0
10	L125	2.23	28.424	355.4	0.57	2.8	0.0
20	L126	0.80	31.175	403.9	0.72	3.9	0.0
30	L127	-0.03	31.472	380.3	0.87	7.8	0.0
50	L128	-1.36	32.281	297.8	1.62	26.3	9.2

STATION #: L028 DATE: 14/09/90 TIME: 1908 (Z+6)

DEPTH: 61m

LATITUDE 70 29.10 N LONGITUDE: 133 53.14 W

DEPTH m	SAMPLE #	TEMP Deg C	SALINITY x10^3	OXYGEN mmol/m3	PHOSPHATE mmol/m3	SILICATE mmol/m3	NITRATE mmol/m3
0	L129	0.18	27.116	364.8	0.57	3.1	0.0
5	L130	0.66	27.264	360.3	0.53	2.9	0.0
10	L131	2.08	27.785	352.2	0.54	2.9	0.0
20	L132	-0.11	30.580	405.4	0.74	3.9	0.0
30	L133	-0.29	31.168	404.3	0.78	6.2	0.0
50	L134	-1.29	32.193	306.8	1.51	23.2	7.7

STATION #: L029 DATE: 15/09/90 TIME: 0840 (Z+6)
DEPTH: 62m
LATITUDE 70 33.81 N LONGITUDE: 133 57.78 W

DEPTH m	SAMPLE #	TEMP Deg C	SALINITY x10^3	OXYGEN mmol/m3	PHOSPHATE mmol/m3	SILICATE mmol/m3	NITRATE mmol/m3
0	L135	–0.89	26.884	372.8	0.61	3.8	0.0
5	L136	–0.83	26.902	371.6	0.62	3.9	0.0
10	L137	–0.31	27.150	369.5	0.62	3.8	0.0
20	L138	0.37	30.848	402.2	0.75	4.4	0.0
30	L139	–0.50	31.396	401.7	0.82	5.9	0.0
50	L140	–1.29	32.156	329.2	1.49	19.9	7.2

STATION #: L030 DATE: 15/09/90 TIME: 1015 (Z+6)
DEPTH: 65m
LATITUDE 70 39.21 N LONGITUDE: 133 59.47 W

DEPTH m	SAMPLE #	TEMP Deg C	SALINITY x10^3	OXYGEN mmol/m3	PHOSPHATE mmol/m3	SILICATE mmol/m3	NITRATE mmol/m3
0	L141	-0.58	26.926	374.9	0.61	3.7	0.0
5	L142	-0.56	26.934	375.5	0.62	3.8	0.0
10	L143	-0.50	27.001	373.7	0.61	3.7	0.0
20	L144	0.48	30.784	403.5	0.75	4.1	0.0
30	L145	-0.42	31.289	406.4	0.80	5.3	0.0
50	L146	-1.21	32.144	329.0	1.32	15.6	6.1

STATION #: L032 DATE: 15/09/90 TIME: 1240 (Z+6)
DEPTH: 71m
LATITUDE 70 49.29 N LONGITUDE: 134 17.15 W

DEPTH m	SAMPLE #	TEMP Deg C	SALINITY x10^3	OXYGEN mmol/m3	PHOSPHATE mmol/m3	SILICATE mmol/m3	NITRATE mmol/m3
0	L147	-0.78	26.668	377.5	0.62	3.8	0.0
5	L148	-0.70	26.731	377.4	0.61	3.8	0.0
10	L149	0.38	29.468	388.9	0.70	4.0	0.0
20	L150	-0.48	30.601	408.7	0.76	3.9	0.0
30	L151	-0.41	31.117	405.1	0.79	5.2	0.0
50	L152	-1.13	31.836	380.7	1.10	10.5	3.4
60	L153	-1.31	32.155	328.9	1.44	20.0	7.5

STATION #: L033 DATE: 15/09/90 TIME: 1356 (Z+6)
DEPTH: 107m
LATITUDE 70 55.59 N LONGITUDE: 134 23.68 W

DEPTH m	SAMPLE #	TEMP Deg C	SALINITY x10^3	OXYGEN mmol/m3	PHOSPHATE mmol/m3	SILICATE mmol/m3	NITRATE mmol/m3
0	L154	-0.92	26.436	380.6	0.62	3.7	0.0
5	L155	-0.92	26.440	380.9	0.60	3.6	0.0
10	L156	-0.92	26.502	380.9	0.62	3.5	0.0
20	L157	-0.32	30.041	401.8	0.74	3.6	0.0
30	L158	-0.86	30.777	410.4	0.78	3.9	0.0
50	L159	-1.12	31.636	395.1	0.99	8.1	1.5
75	L160	-1.34	32.432	317.4	1.55	23.9	10.5
100	L161	-1.44	32.665	308.7	1.68	28.0	12.7

STATION #: L034 DATE: 15/09/90 TIME: 1548 (Z+6)
DEPTH: 265m
LATITUDE 70 59.09 N LONGITUDE: 134 29.78 W

DEPTH m	SAMPLE #	TEMP Deg C	SALINITY x10^3	OXYGEN mmol/m3	PHOSPHATE mmol/m3	SILICATE mmol/m3	NITRATE mmol/m3
0	L162	-1.13	26.276	381.3	0.60	3.6	0.0
5	L163	-1.11	26.292	380.4	0.59	3.6	0.0
10	L164	-1.11	26.446	382.3	0.60	3.6	0.0
20	L165	-0.65	30.439	409.6	0.78	3.9	0.0
30	L166	-1.01	30.814	416.3	0.79	4.1	0.0
50	L167	-1.24	31.655	395.0	1.04	8.2	2.1
75	L168	-1.33	32.287	331.6	1.49	20.1	9.3
100	L169	-1.43	32.596	310.1	1.65	26.9	12.3
125	L170	-1.50	32.776	300.2	1.79	29.7	13.5
150	L171	-1.53	32.948	296.2	1.78	31.8	14.4
184	L172	-1.49	33.267	293.9	1.77	32.5	14.7
234	L173	-0.71	34.186	268.6	1.42	24.6	15.3

STATION #: L035 DATE: 16/09/90 TIME: 0837 (Z+6)
DEPTH: 23m
LATITUDE 69 08.00 N LONGITUDE: 137 41.62 W

DEPTH m	SAMPLE #	TEMP Deg C	SALINITY x10^3	OXYGEN mmol/m3	PHOSPHATE mmol/m3	SILICATE mmol/m3	NITRATE mmol/m3
0	L174	2.49	27.830	356.0	0.57	4.1	0.0
5	L175	2.49	27.840	356.5	0.55	4.0	0.0
10	L176	2.34	28.611	358.2	0.60	4.0	0.0
20	L177	2.39	29.094	348.7	0.81	4.8	0.0

STATION #: L036 DATE: 16/09/90 TIME: 0957 (Z+6)
DEPTH: 37m
LATITUDE 69 16.90 N LONGITUDE: 137 51.02 W

DEPTH m	SAMPLE #	TEMP Deg C	SALINITY x10^3	OXYGEN mmol/m3	PHOSPHATE mmol/m3	SILICATE mmol/m3	NITRATE mmol/m3
0	L178	1.98	26.595	362.1	0.51	4.2	0.0
5	L179	1.98	26.521	361.5	0.52	4.2	0.0
10	L180	1.98	26.538	361.4	0.49	4.2	0.0
20	L181	1.91	28.794	362.2	0.59	4.1	0.0
30	L182	1.54	30.473	357.2	0.74	6.2	0.4

STATION #: L038 DATE: 15/09/90 TIME: 1204 (Z+6)
DEPTH: 52m
LATITUDE 69 24.65 N LONGITUDE: 137 58.60 W

DEPTH m	SAMPLE #	TEMP Deg C	SALINITY x10^3	OXYGEN mmol/m3	PHOSPHATE mmol/m3	SILICATE mmol/m3	NITRATE mmol/m3
0	L183		26.514	364.3	0.50	4.3	0.0
5	L184		26.658	364.6	0.50	4.1	0.0
10	L185		26.698	365.2	0.54	4.1	0.0
20	L186		30.801	389.1	0.71	2.7	0.0
30	L187		31.179	384.4	0.66	2.8	0.0
45	L188		31.591	386.2	0.74	3.2	0.0

STATION #: L042 DATE: 16/09/90 TIME: 1454 (Z+6)
DEPTH: 92m
LATITUDE 69 30.85 N LONGITUDE: 138 04.47 W

DEPTH m	SAMPLE #	TEMP Deg C	SALINITY x10^3	OXYGEN mmol/m3	PHOSPHATE mmol/m3	SILICATE mmol/m3	NITRATE mmol/m3
0	L189	1.50	24.933	368.9	0.44	5.2	0.0
5	L190	1.48	25.235	368.6	0.45	5.0	0.0
10	L191	1.47	25.406	367.0	0.46	4.9	0.0
20	L192	0.83	31.170	385.3	0.72	2.5	0.0
30	L193	0.72	31.666	376.3	0.73	2.4	0.0
50	L194	0.76	31.762	372.4	0.77	2.2	0.2
75	L195	0.62	31.903	369.9	0.85	2.2	0.3
85	L196	-0.25	32.119	364.0	1.04	6.6	2.3

STATION #: L049 DATE: 16/09/90 TIME: 2134 (Z+6)
DEPTH: 133m
LATITUDE 69 37.95 N LONGITUDE: 138 14.09 W

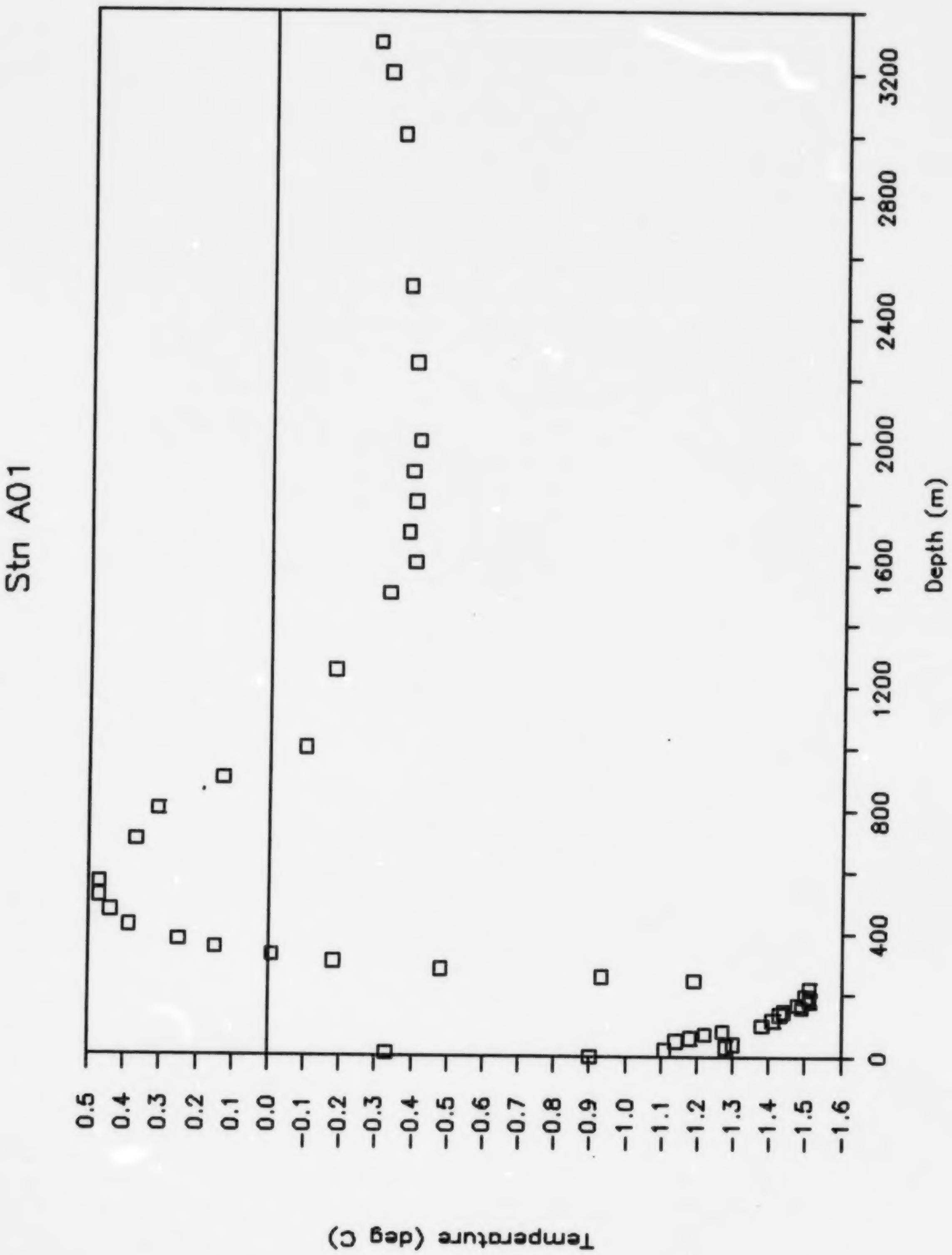
DEPTH m	SAMPLE #	TEMP Deg C	SALINITY x10^3	OXYGEN mmol/m3	PHOSPHATE mmol/m3	SILICATE mmol/m3	NITRATE mmol/m3
0	L197	1.39		370.8	0.45	5.5	0.0
5	L198	1.34	24.815	370.2	0.46	5.2	0.0
10	L199	1.29	27.228	361.8	0.53	3.4	0.0
20	L200	-1.27	30.536	412.2	0.77	4.6	0.0
30	L201	-0.55	31.105	392.2	0.80	5.7	0.4
50	L202	-1.18	32.063	344.7	1.30	17.5	6.4
75	L203	-1.16	32.355	331.5	1.47	22.0	9.0
100	L204	-1.35	32.466	320.3	1.56	24.9	10.7
125	L205	-1.45	32.719	309.7	1.64	28.7	12.2

STATION #: L050 DATE: 17/09/90 TIME: 0827 (Z+6)
DEPTH: 708m
LATITUDE 70 24.89 N LONGITUDE: 139 03.39 W

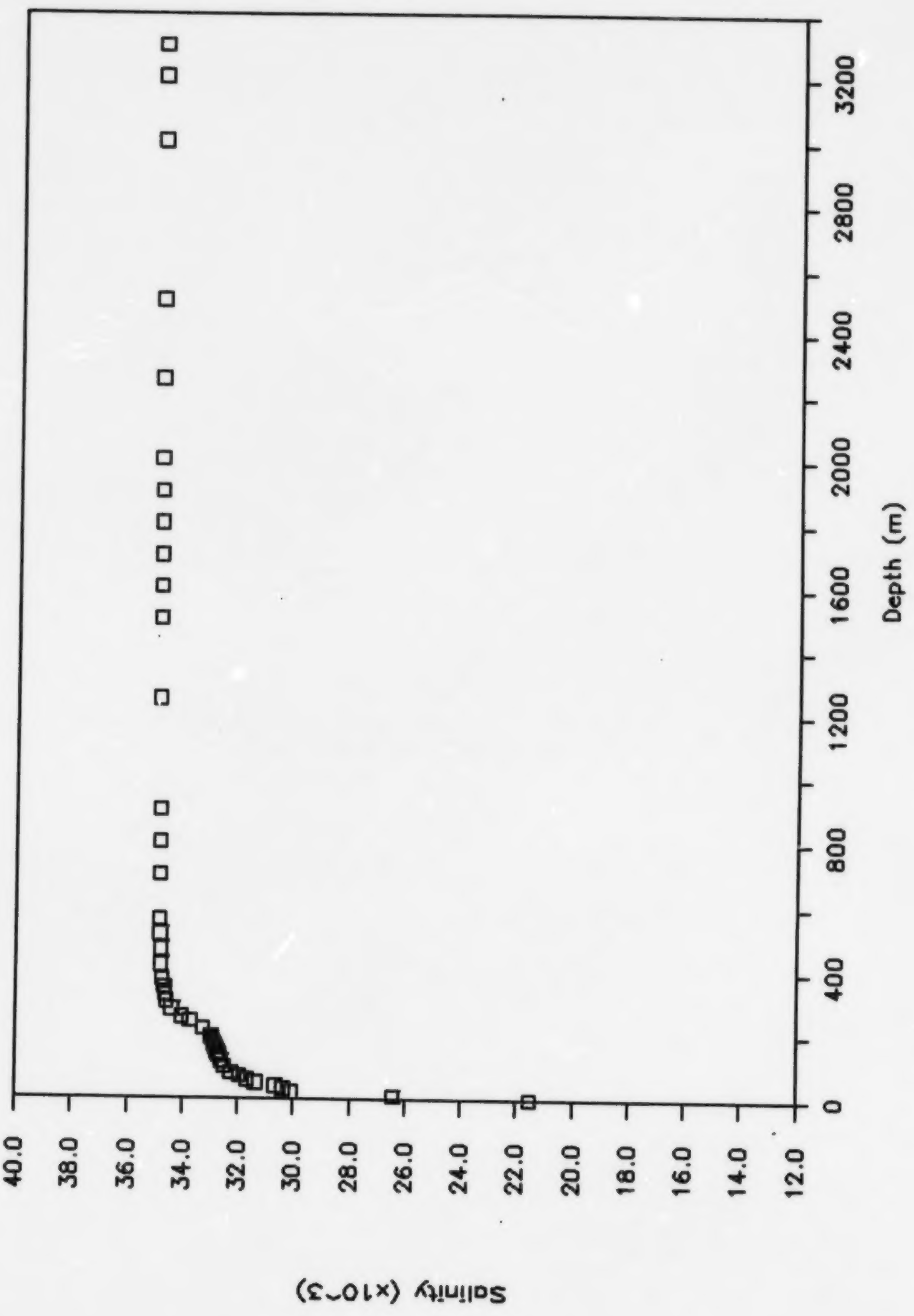
DEPTH m	SAMPLE #	TEMP Deg C		SALINITY x10^3	OXYGEN mmol/m3	PHOSPHATE mmol/m3	SILICATE mmol/m3	NITRATE mmol/m3
0	L206	-0.51	*	22.039	387.9	0.37	6.0	0.0
5	L207	-0.13	*	23.634	379.1	0.44	4.9	0.0
10	L208	0.50		24.717	373.0	0.48	4.6	0.0
20	L209	-1.06		30.117	410.9	0.73	4.3	0.0
30	L210	-1.35		30.500	411.8	0.77	4.2	0.1
50	L211	-1.30		31.570	394.4	0.99	8.7	2.4
75	L212	-0.83		32.157	341.6	1.30	14.5	5.7
100	L213	-1.43		32.494	319.2	1.58	24.9	10.9
125	L214	-1.51		32.767	302.9	1.70	29.7	13.0
150	L215	-1.57		33.016	303.1	1.74	32.9	13.7
200	L216	-1.44		33.625	298.7	1.64	31.3	13.7
260	L217	-0.50		34.393	271.1	1.24	20.0	14.3
300	L218	-0.02		34.661	281.0	0.98	13.1	13.2
350	L219	0.21		34.750	288.5	0.94	11.1	13.1
400	L220	0.36		34.794	294.7	0.95	9.4	12.8
450	L221	0.39		34.829	296.9	0.88	8.5	12.7
500	L222	0.41		34.845	297.6	0.89	8.4	12.8
550	L223	0.41		34.857	298.2	0.89	8.0	12.9
600	L224	0.39		34.866	299.8	0.86	7.9	12.9
650	L225	0.35		34.871	300.0	0.87	8.6	12.9

STATION #: L052 DATE: 17/09/90 TIME: 1435 (Z+6)
DEPTH: 368m
LATITUDE 70 09.74 N LONGITUDE: 138 48.34 W

DEPTH m	SAMPLE #	TEMP Deg C	SALINITY x10^3	OXYGEN mmol/m3	PHOSPHATE mmol/m3	SILICATE mmol/m3	NITRATE mmol/m3
0	L226	-1.44	21.869	382.0	0.36	7.2	0.0
5	L227	1.00	22.349	372.9	0.36	7.9	0.0
10	L228	0.42	29.303	400.1	0.68	4.2	0.0
20	L229	-1.31	30.334	413.9	0.76	4.5	0.0
30	L230	-1.33	30.579	412.2	0.77	4.3	0.0
50	L231	-0.95	31.503	397.4	0.96	7.2	1.2
75	L232	-1.29	32.234	334.3	1.41	20.2	8.6
100	L233	-1.41	32.495	269.3	1.59	24.9	11.0
125	L234	-1.49	32.753	303.5	1.70	28.9	12.8
150	L235	-1.53	32.927	300.8	1.74	31.5	13.7
200	L236	-1.48	33.416	291.7	1.72	33.4	14.5
220	L237	-1.30	33.809	295.4	1.59	30.1	14.0
250	L238	-0.42	34.484	272.5	1.19	18.8	14.0
300	L239	0.04	34.688	287.0	1.01	13.2	13.3
350	L240	0.22	34.771	284.8	0.99	12.2	13.1

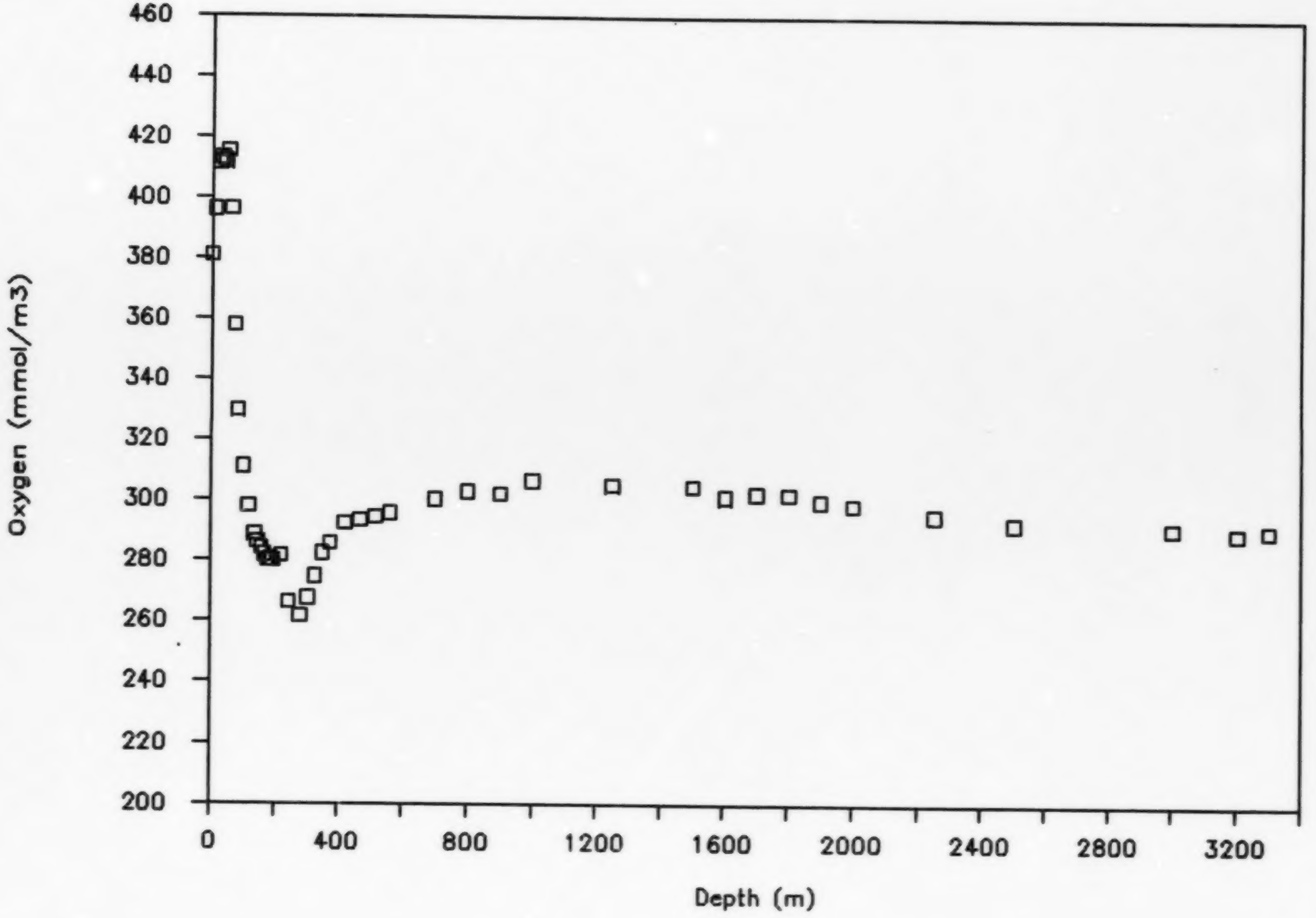

Stn A01
Temperature (deg C)
Depth (m)
0.5
0.4
0.3
0.2
0.1
0.0
-0.1
-0.2
-0.3
-0.4
-0.5
-0.6
-0.7
-0.8
-0.9
-1.0
-1.1
-1.2
-1.3
-1.4
-1.5
-1.6
0
400
800
1200
1600
2000
2400
2800
3200

Stn A01



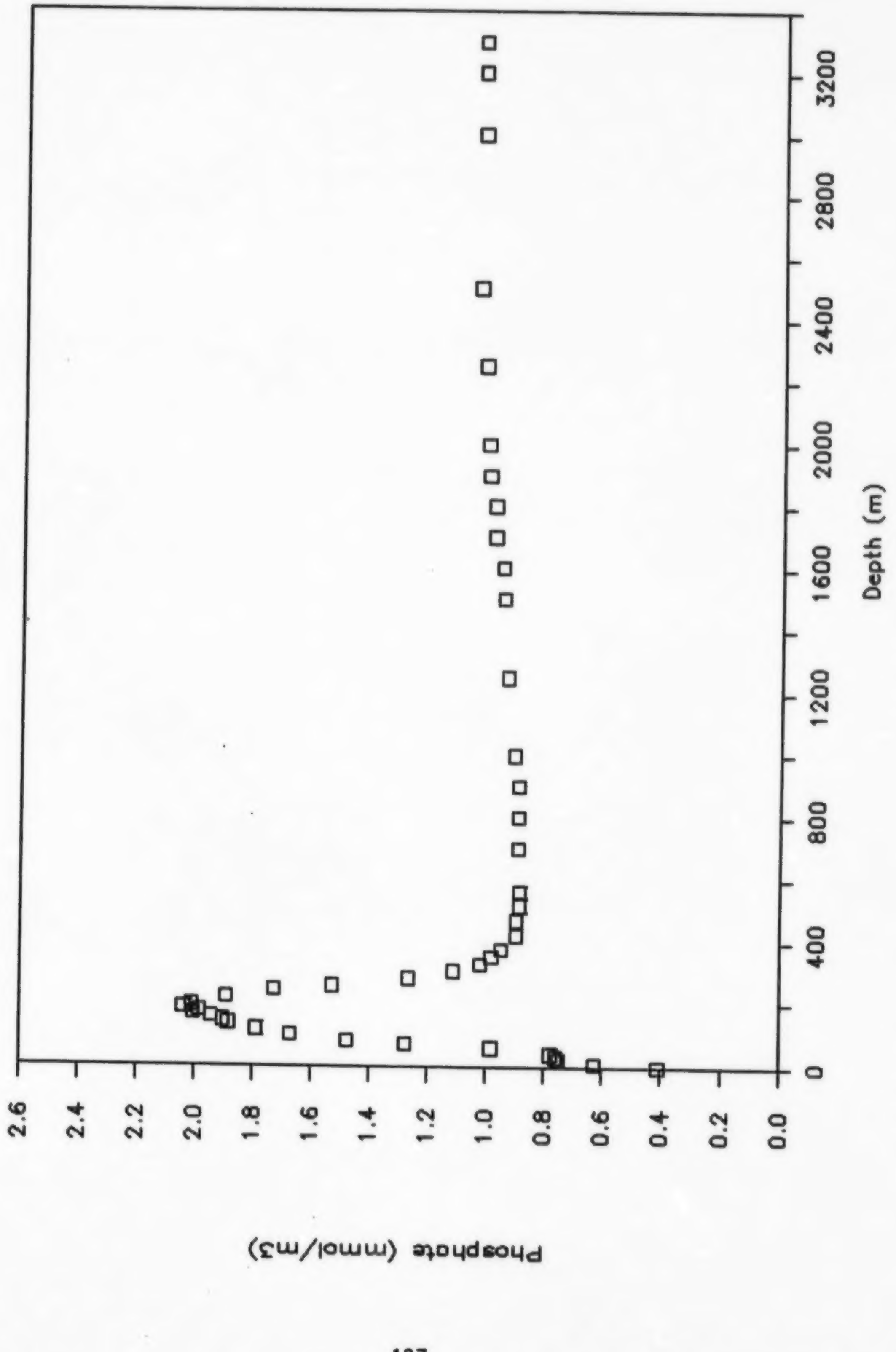
Salinity (x10^3)
40.0
38.0
36.0
34.0
32.0
30.0
28.0
26.0
24.0
22.0
20.0
18.0
16.0
14.0
12.0
Depth (m)
0
400
800
1200
1600
2000
2400
2800
3200

Stn A01



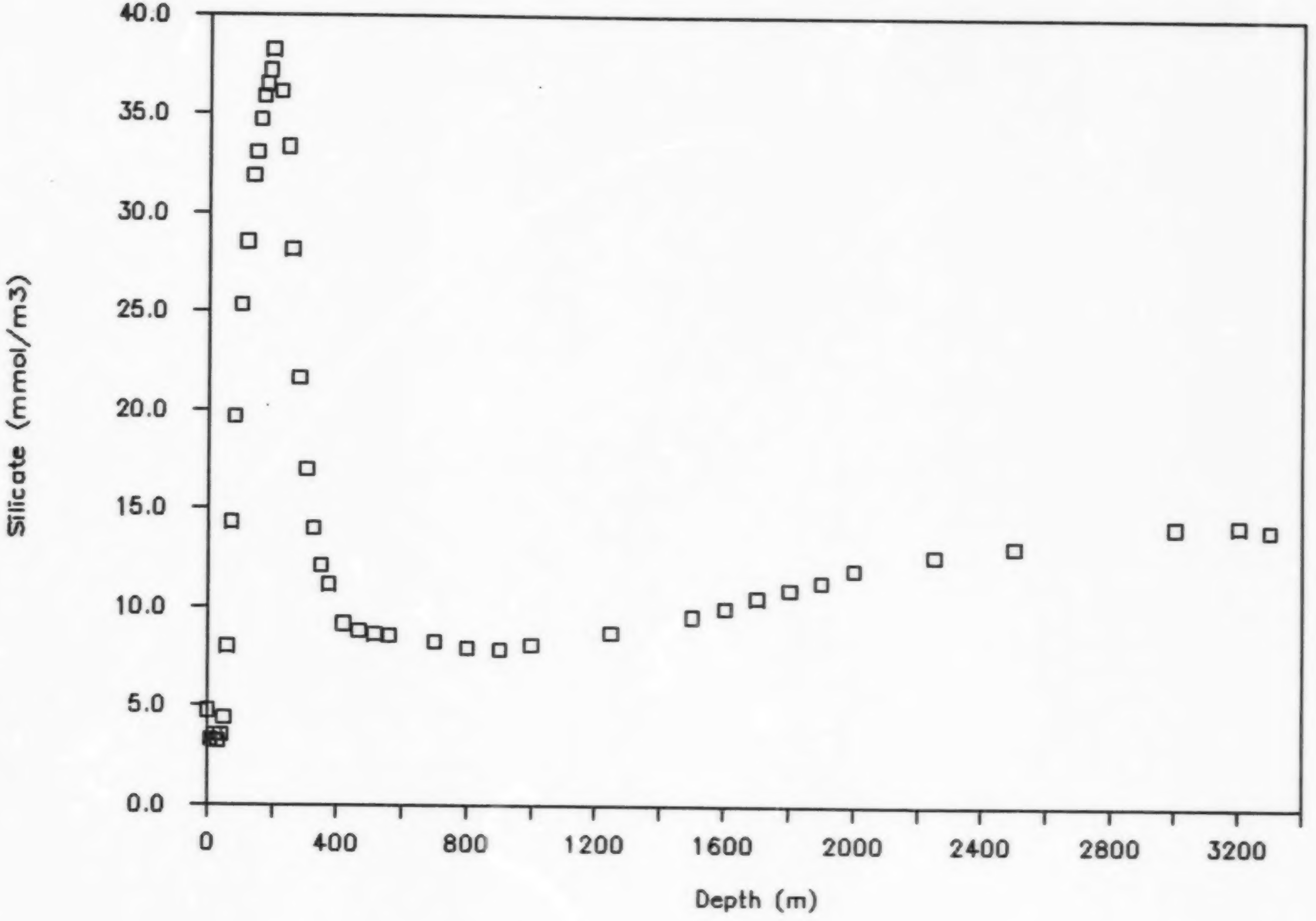
Oxygen (mmol/m3)
460
440
420
400
380
360
340
320
300
280
260
240
220
200
0
400
800
1200
1600
2000
2400
2800
3200
Depth (m)

Stn A01

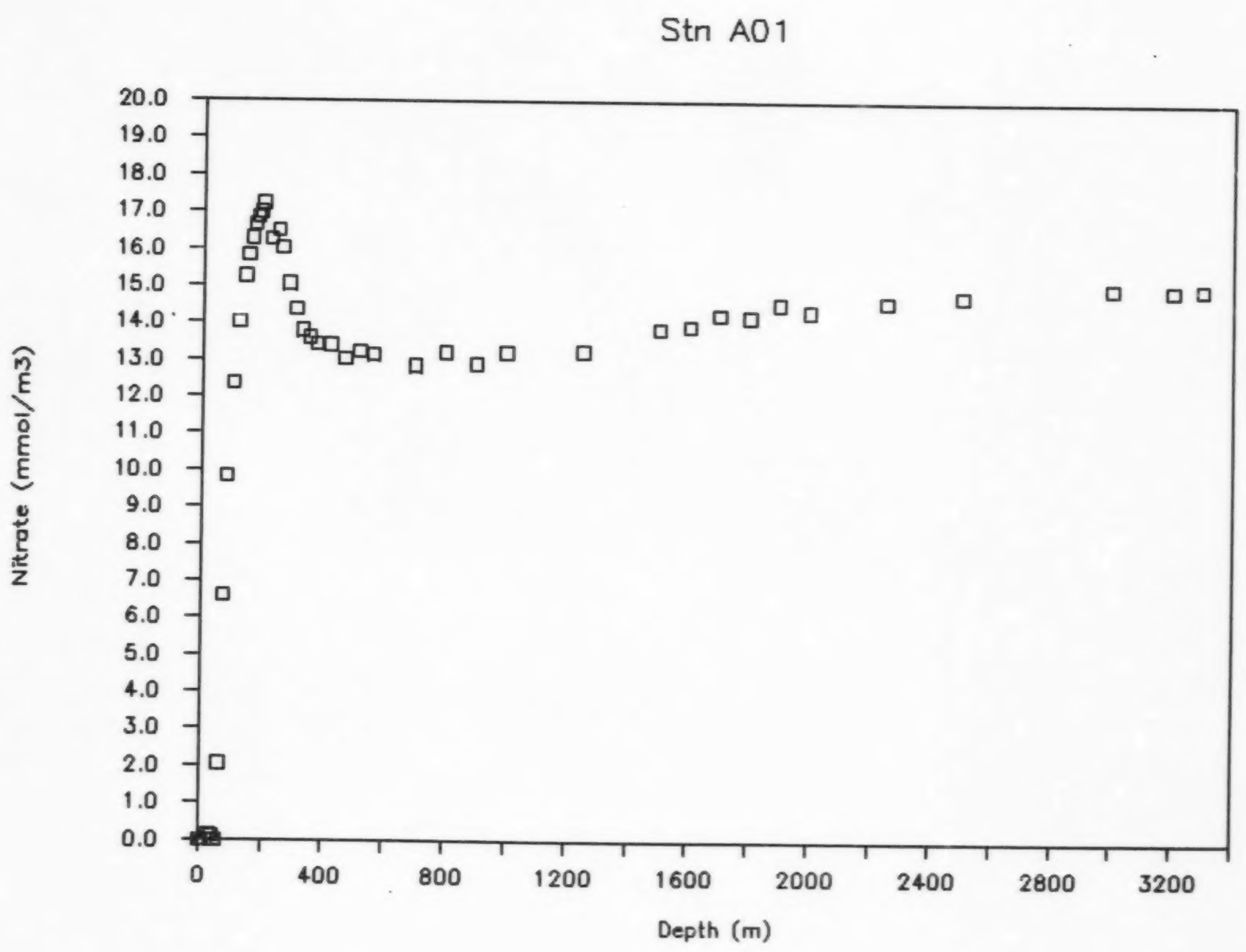


Phosphate (mmol/m3)
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
1.6
1.8
2.0
2.2
2.4
2.6
Depth (m)
0
400
800
1200
1600
2000
2400
2800
3200

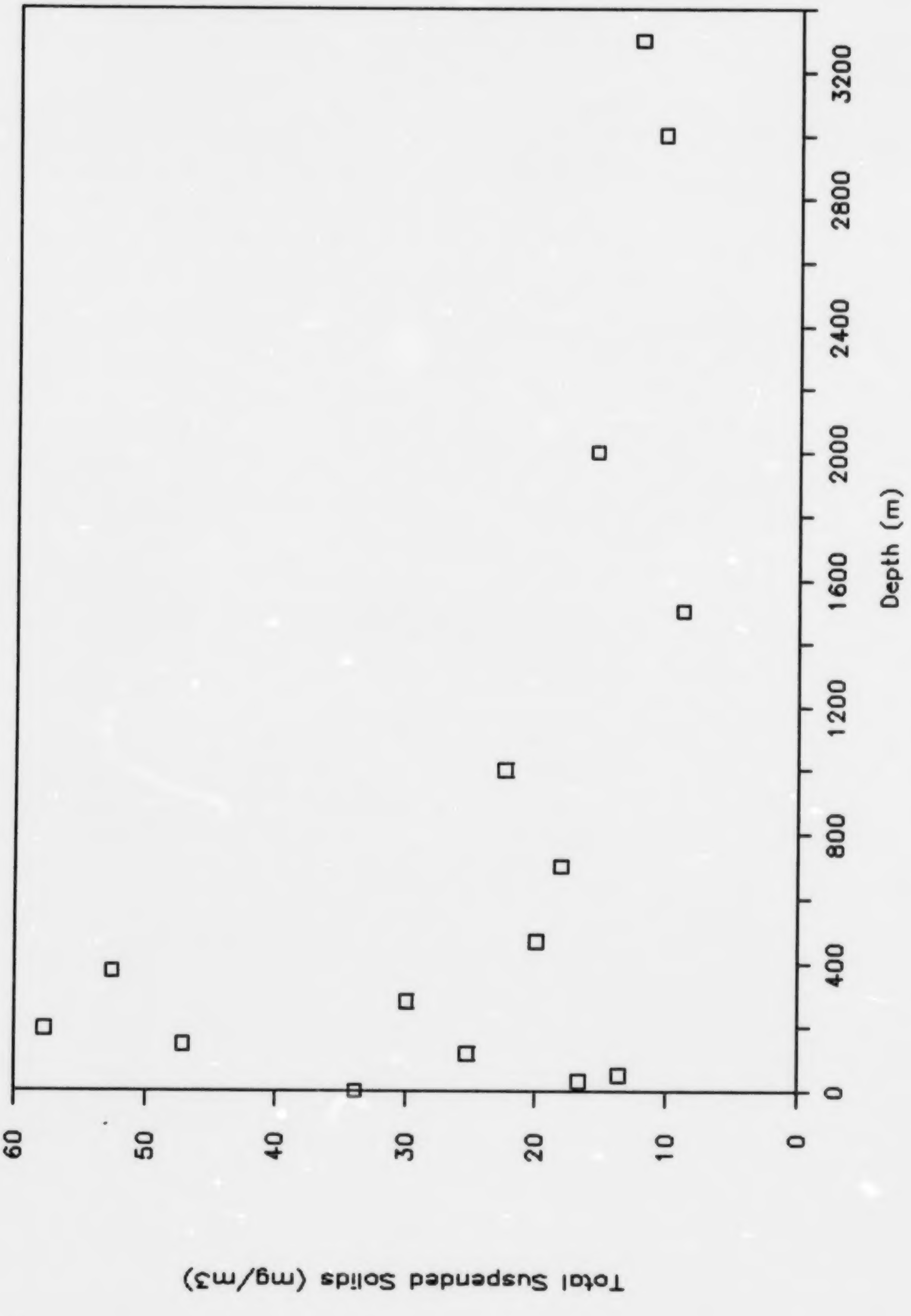
Stn A01



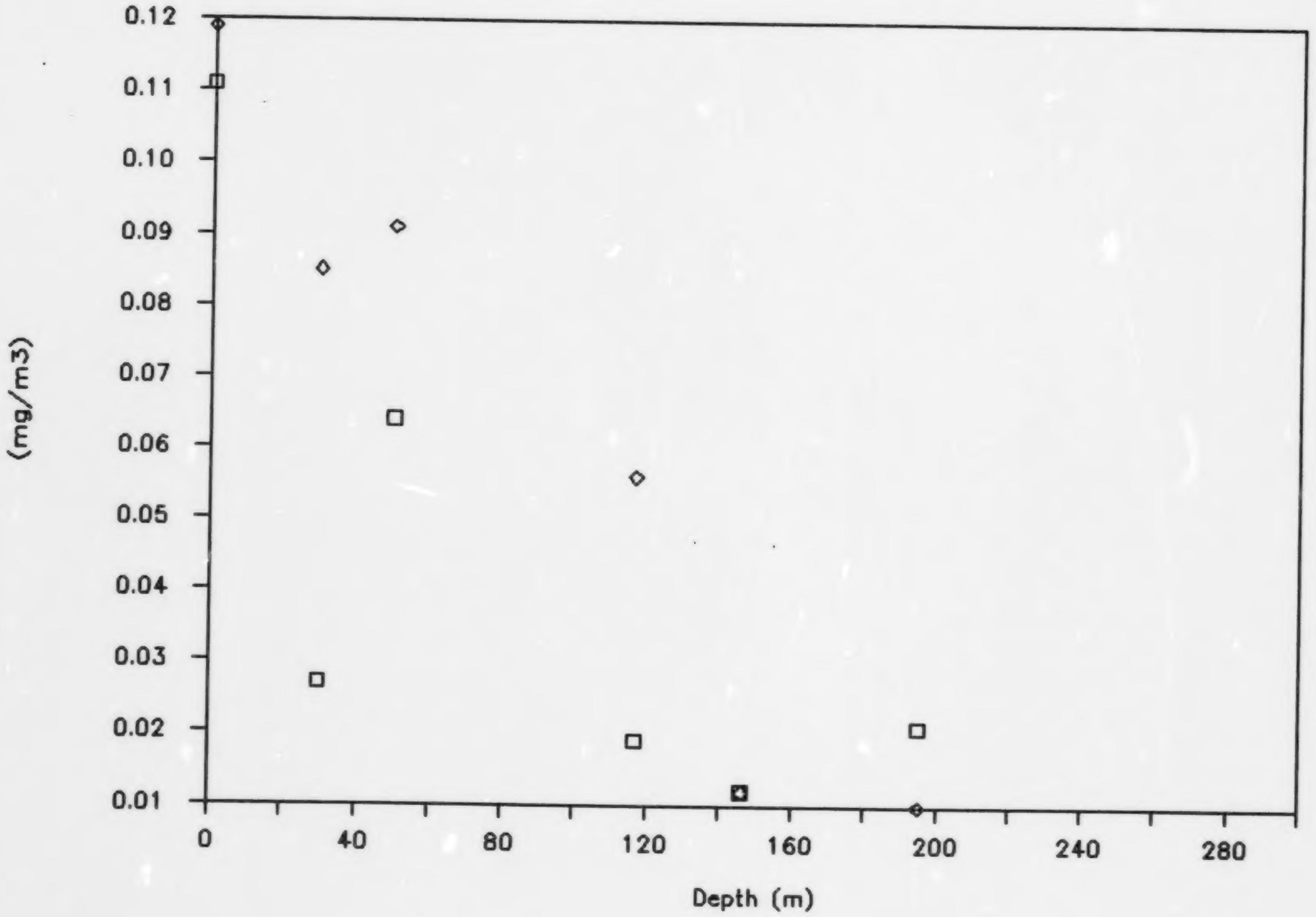
40.0
35.0
30.0
25.0
20.0
15.0
10.0
5.0
0.0
Silicate (mmol/m3)
0
400
800
1200
1600
2000
2400
2800
3200
Depth (m)


Stn A01
Nitrate (mmol/m3)
20.0
19.0
18.0
17.0
16.0
15.0
14.0
13.0
12.0
11.0
10.0
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
0
400
800
1200
1600
2000
2400
2800
3200
Depth (m)

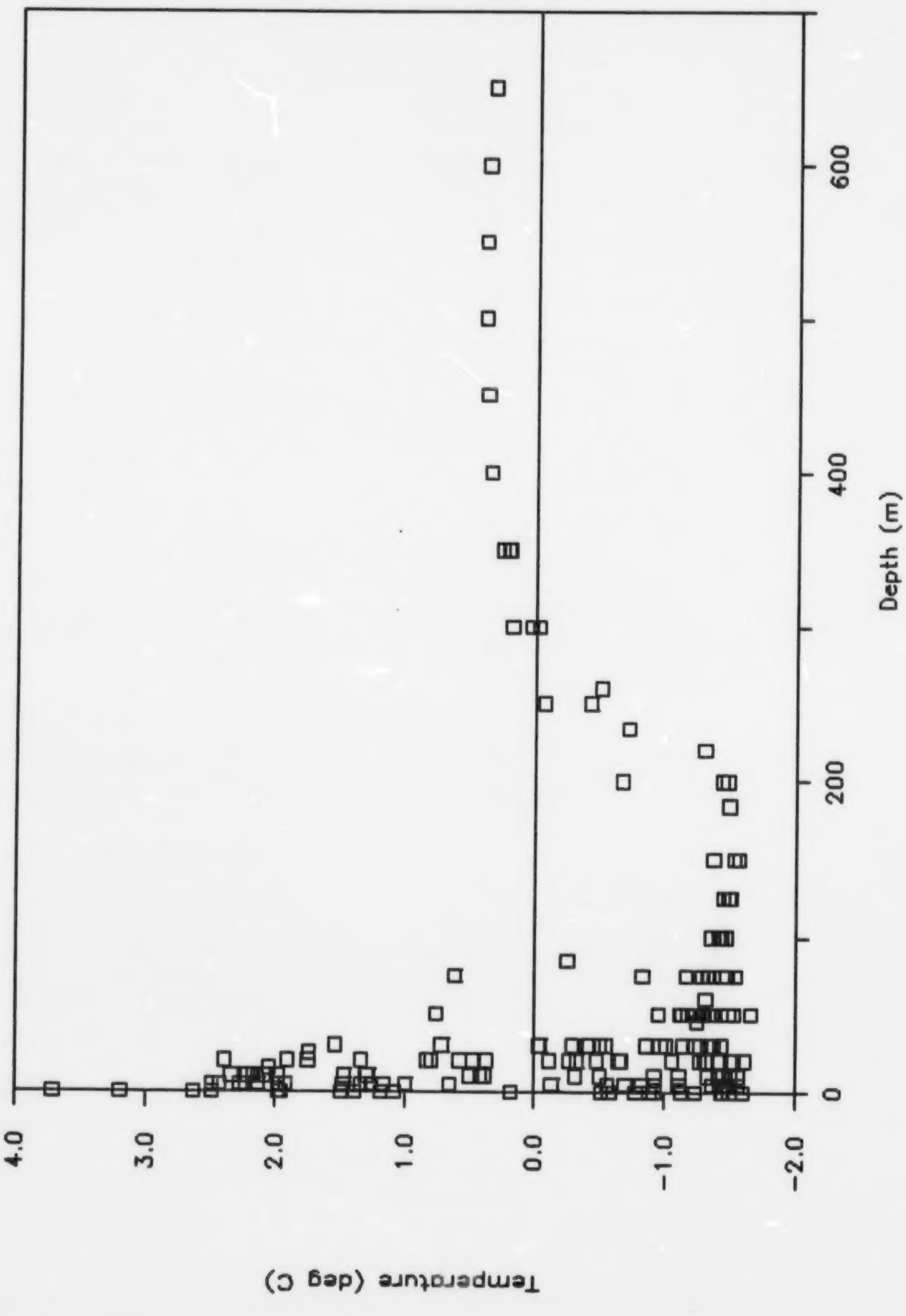
Stn A01

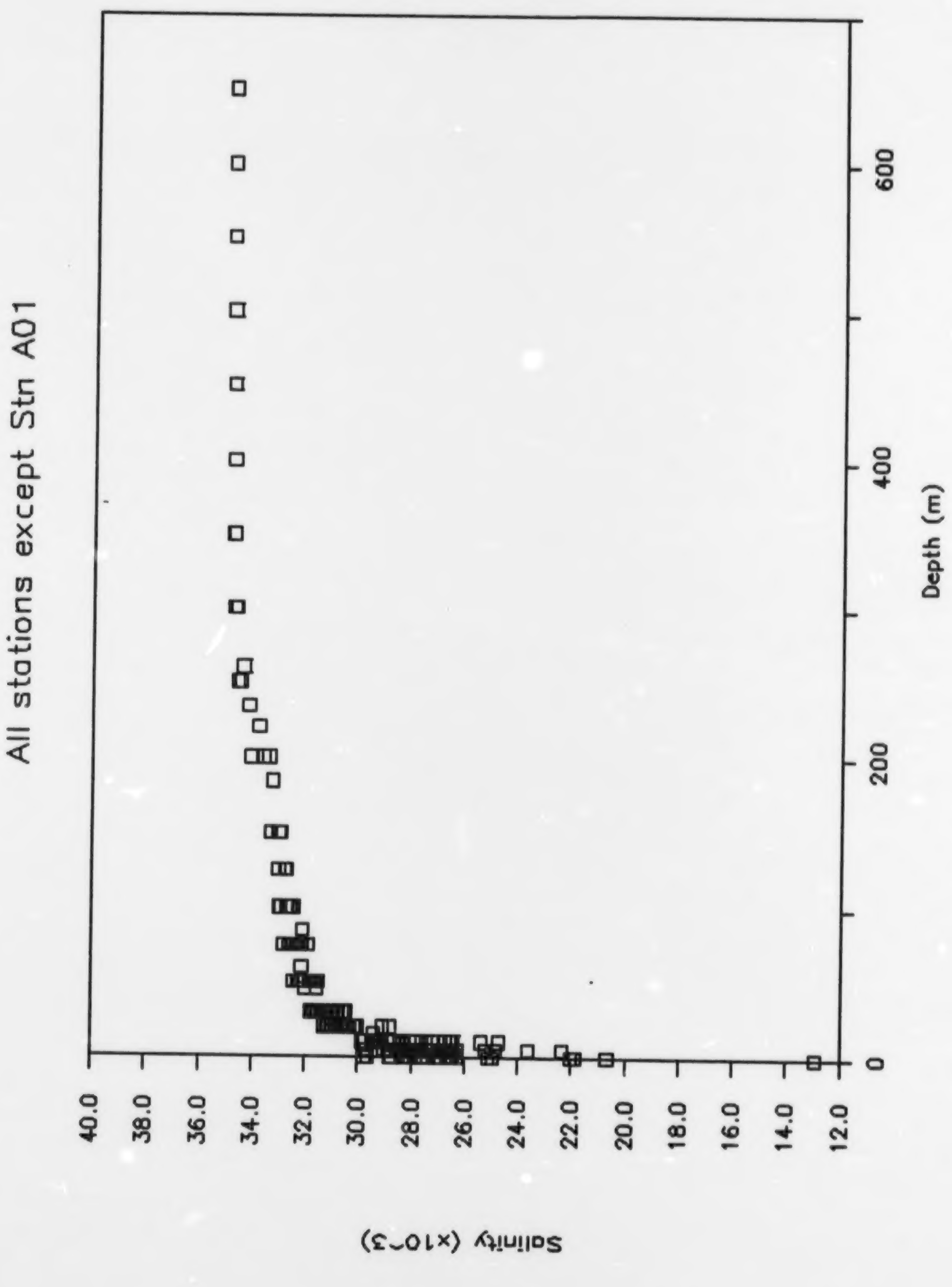

Total Suspended Solids (mg/m3)
60
50
40
30
20
10
0
Depth (m)
0
400
800
1200
1600
2000
2400
2800
3200

Stn A01


0.12
0.11
0.10
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
(mg/m3)
0
40
80
120
160
200
240
280
Depth (m)

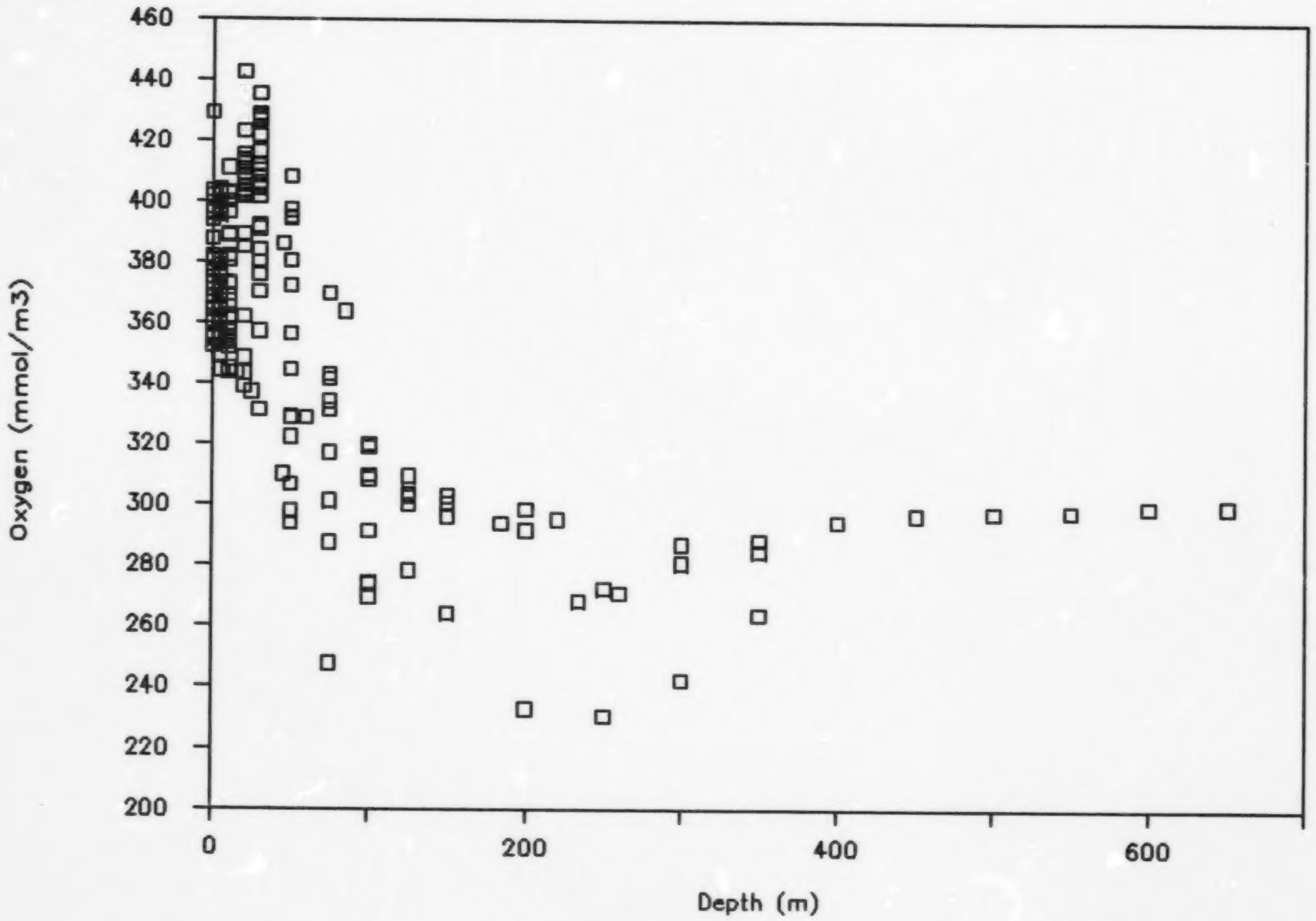
All stations except Stn A01

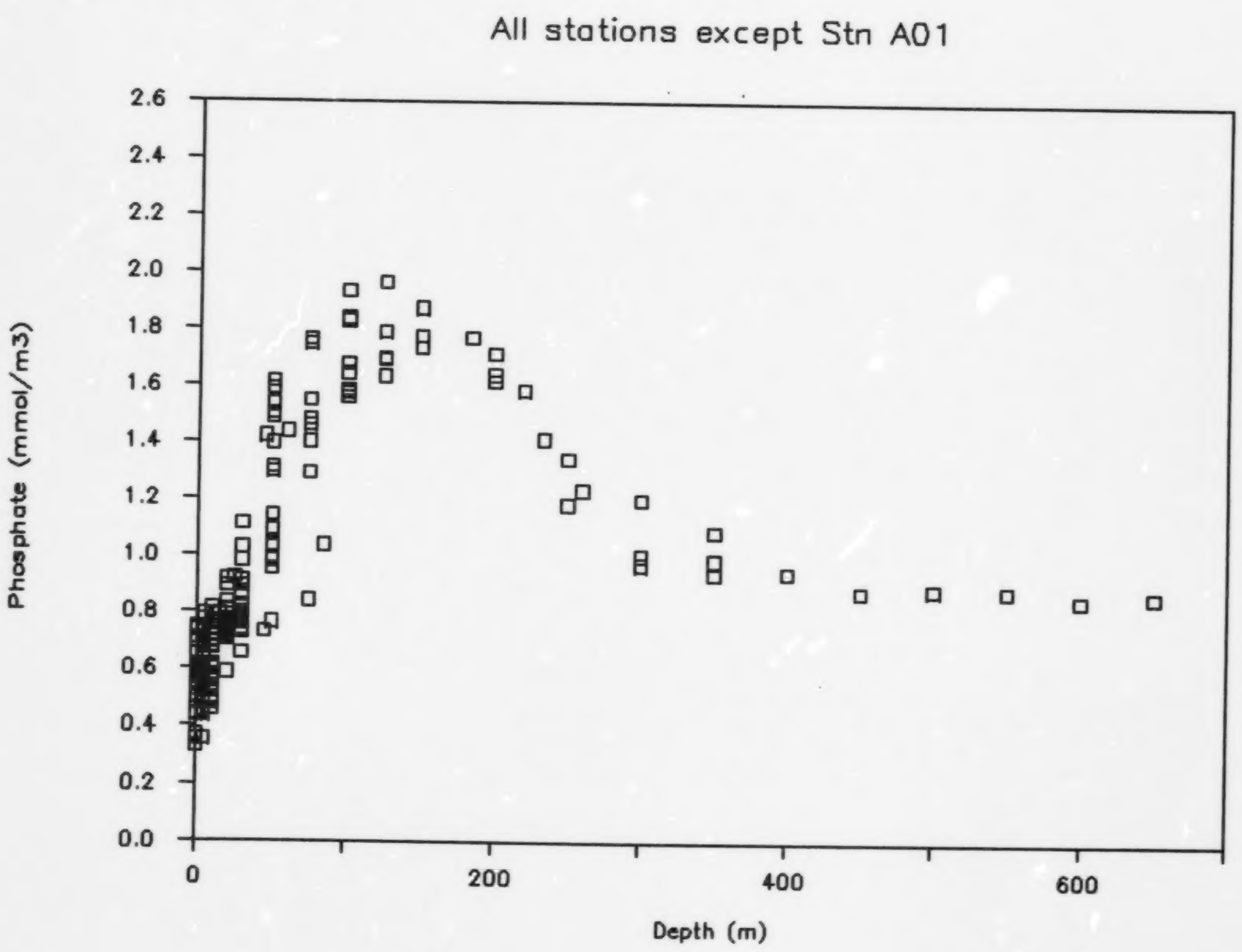


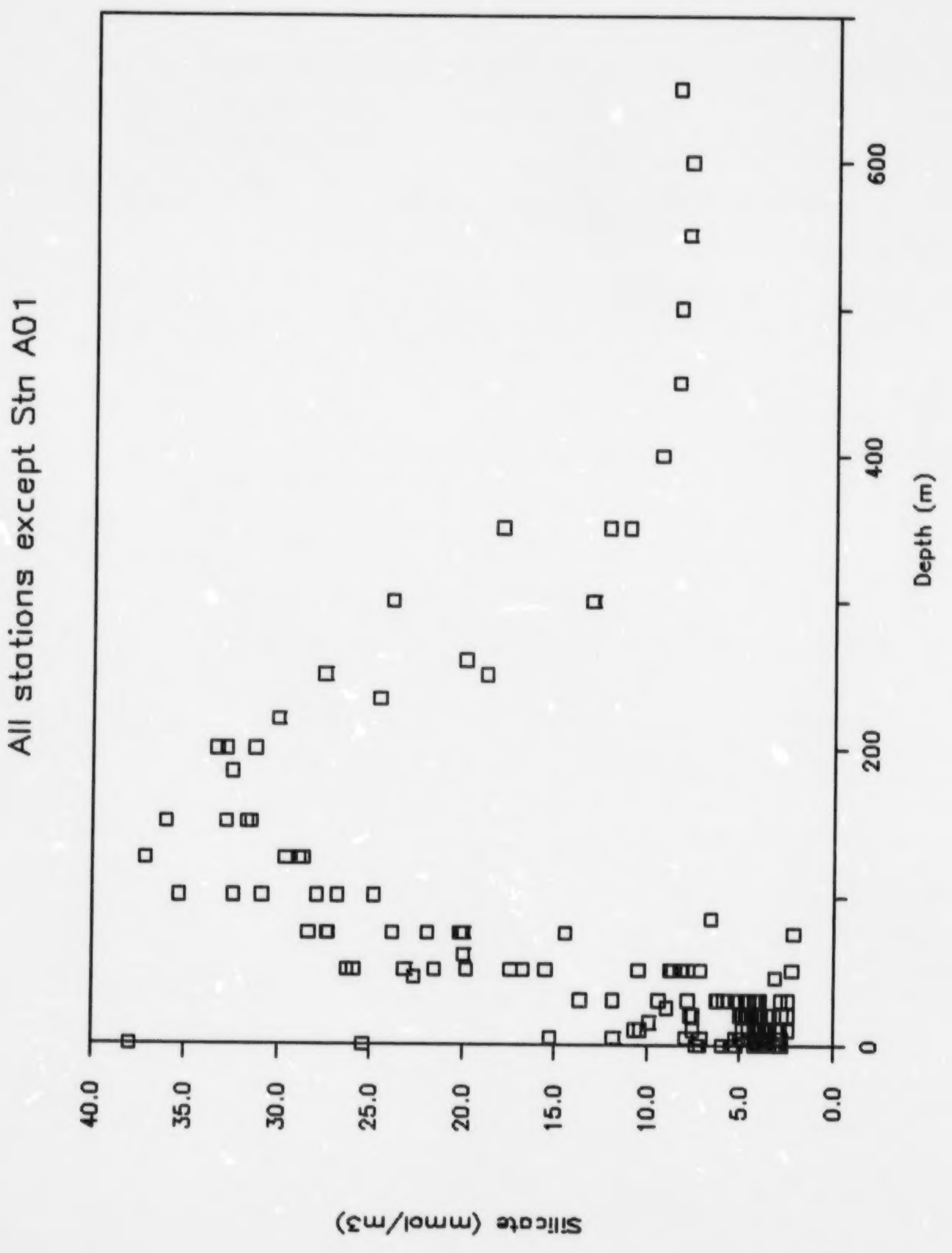


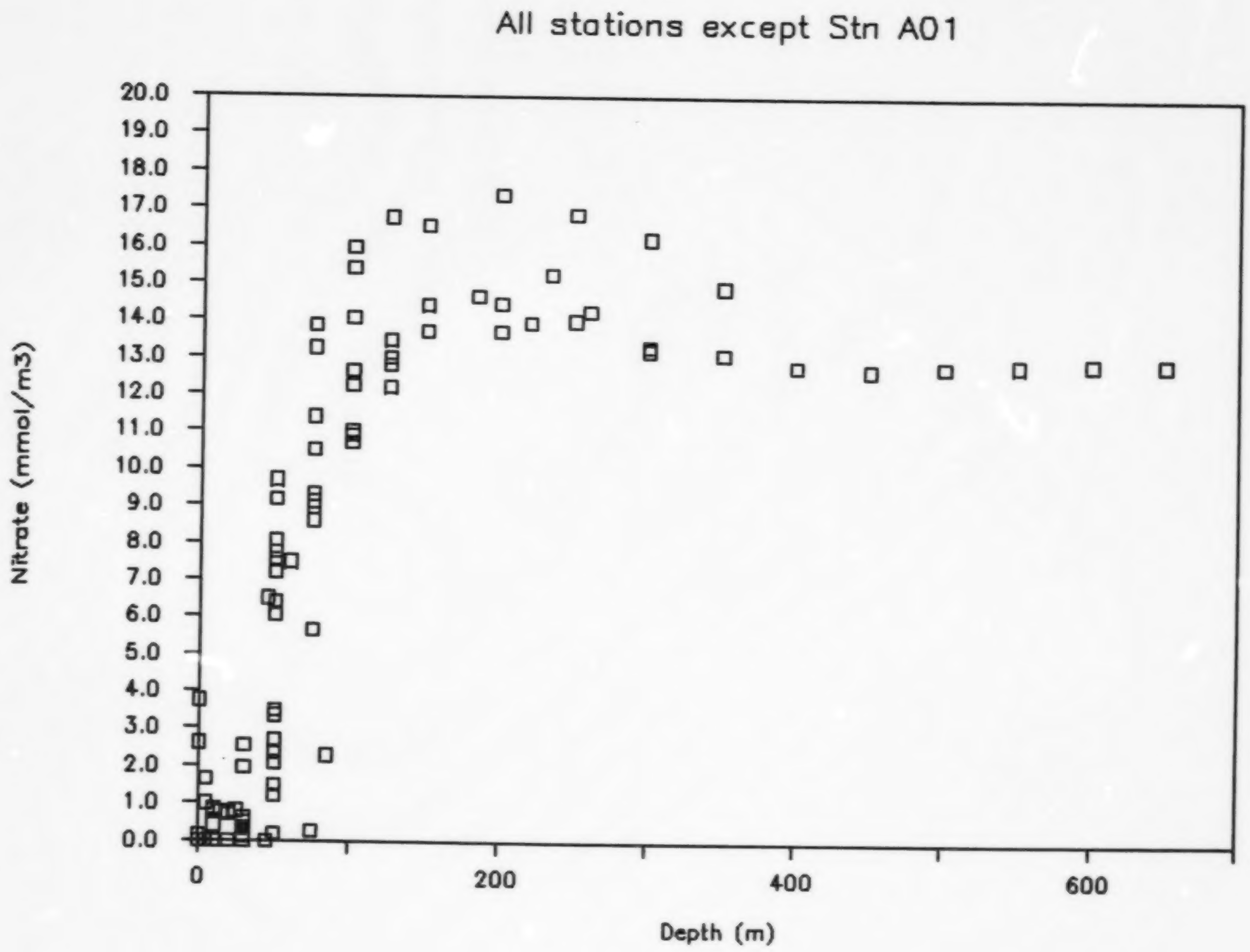
All stations except Stn A01
Depth (m)
0
200
400
600
Salinity (x10^-3)
40.0
38.0
36.0
34.0
32.0
30.0
28.0
26.0
24.0
22.0
20.0
18.0
16.0
14.0
12.0

All stations except Stn A01



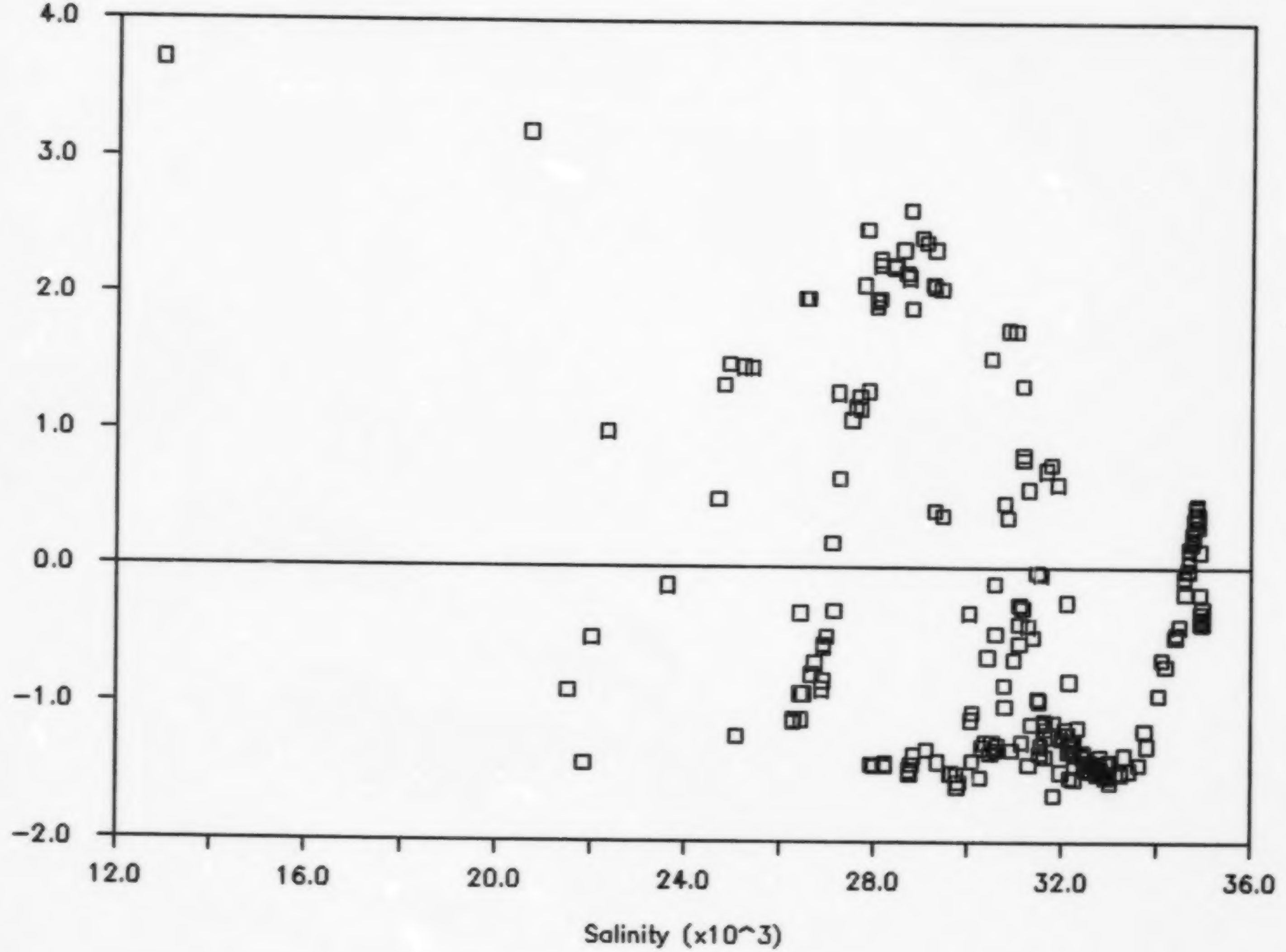

All stations except Stn A01
Phosphate (mmol/m3)
2.6
2.4
2.2
2.0
1.8
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
0
200
400
600
Depth (m)


All stations except Stn A01
Depth (m)
0
200
400
600
Silicate (mmol/m3)
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0

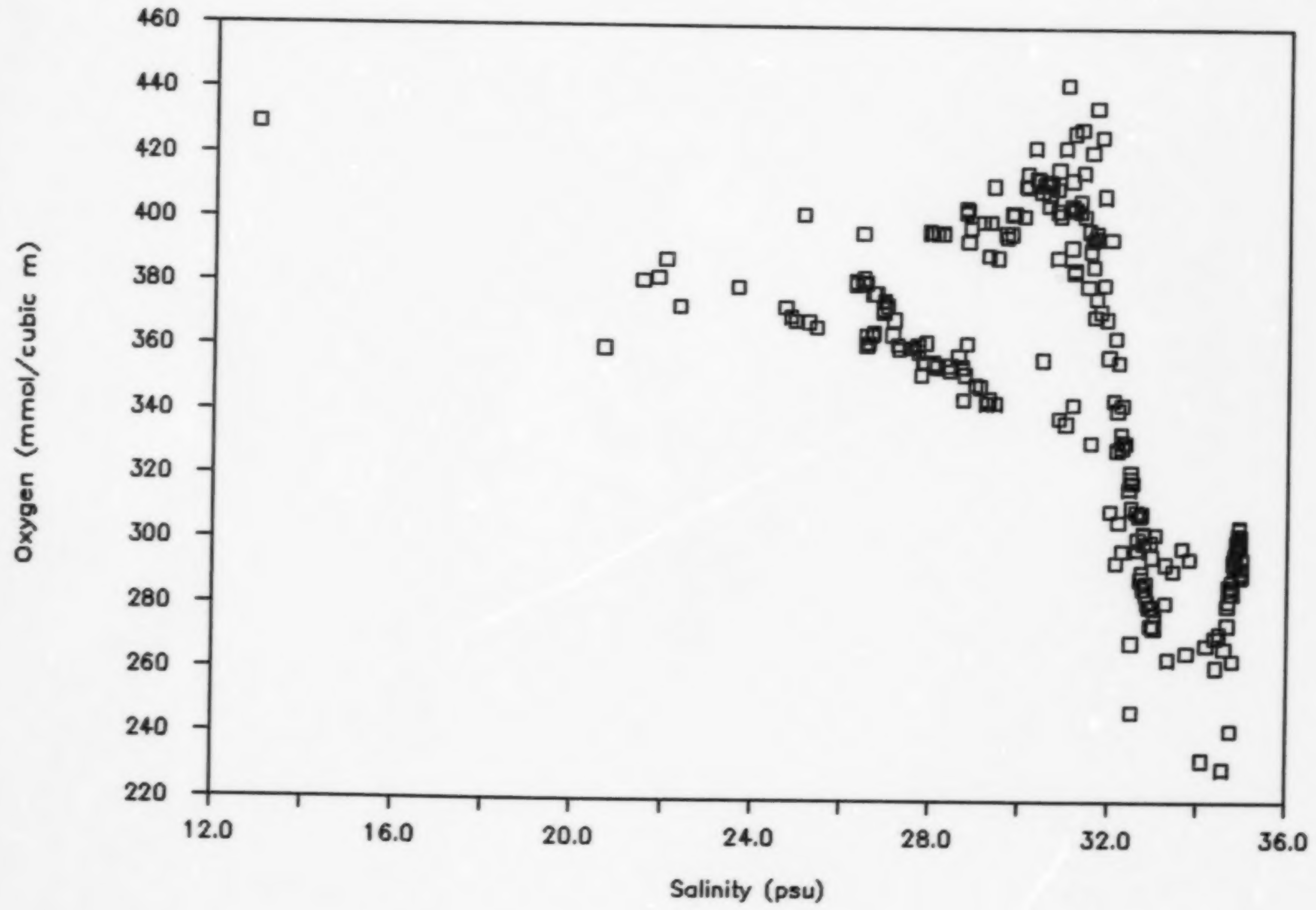


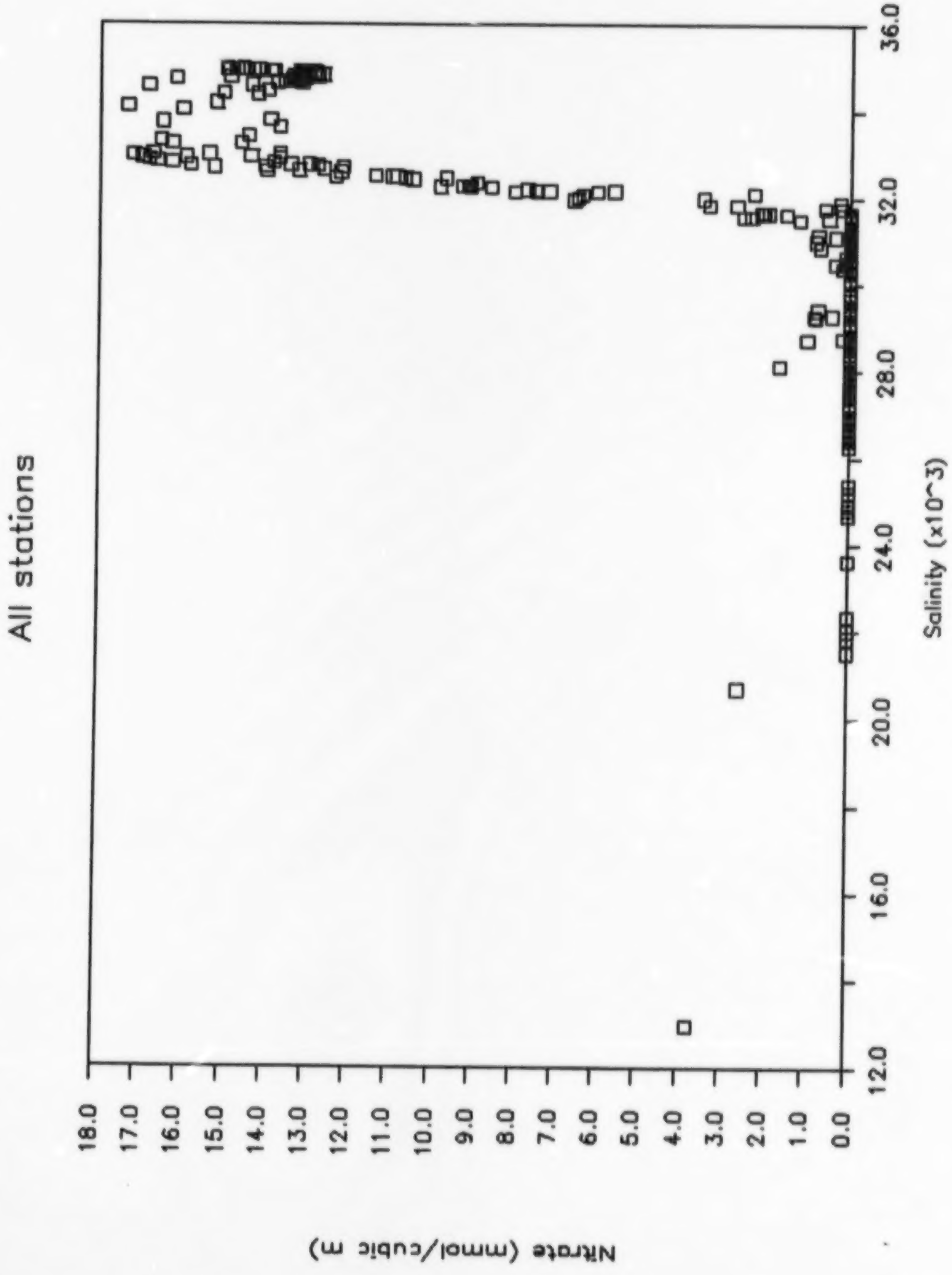
All stations except Stn A01
20.0
19.0
18.0
17.0
16.0
15.0
14.0
13.0
12.0
11.0
10.0
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
Nitrate (mmol/m3)
0
200
400
600
Depth (m)

All stations

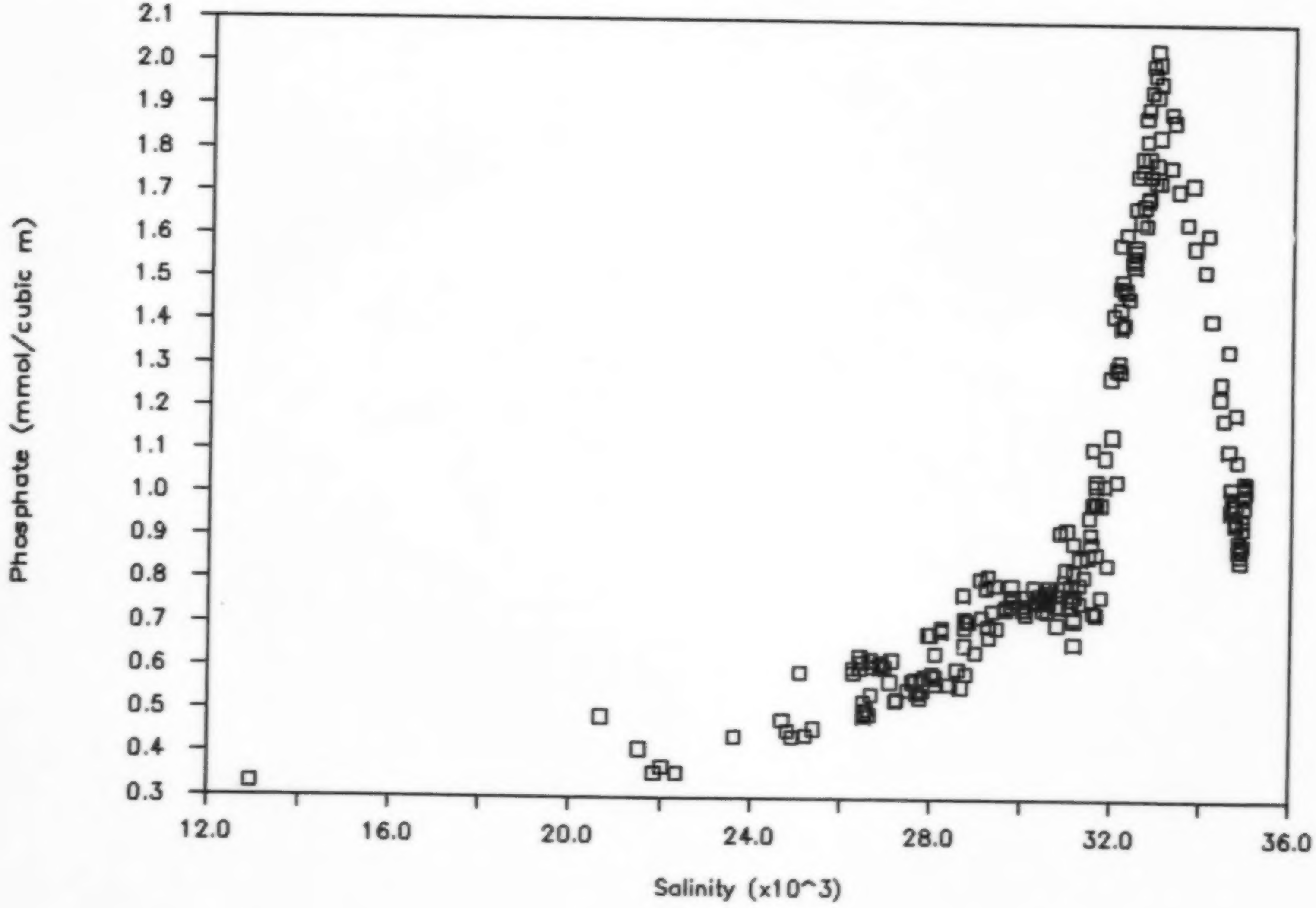


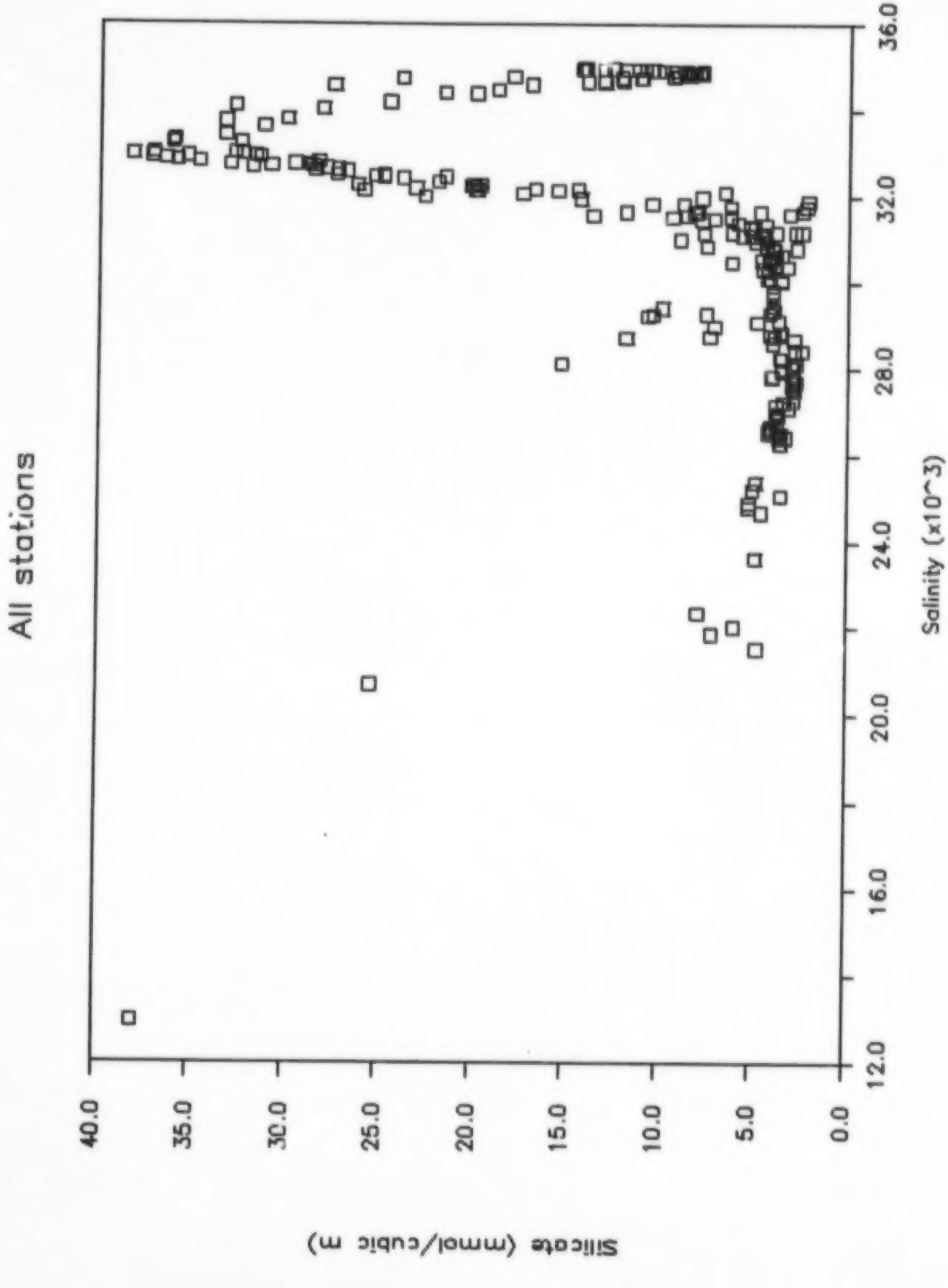
All stations




All stations
Nitrate (mmol/cubic m)
18.0
17.0
16.0
15.0
14.0
13.0
12.0
11.0
10.0
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
12.0
16.0
20.0
24.0
28.0
32.0
36.0
Salinity (x10^3)

All stations




All stations
Silicate (mmol/cubic m)
40.0
35.0
30.0
25.0
20.0
15.0
10.0
5.0
0.0
12.0
16.0
20.0
24.0
28.0
32.0
36.0
Salinity (x10^3)

NOGAP B.6 Data Reports in the Canadian Data Report of Hydrography and Ocean Sciences Series

Macdonald, R.W., K. Iseki, E.C. Carmack, D.M. Macdonald, M.C. O'Brien, and F.A. McLaughlin. 1988. Data Report: NOGAP B.6; Beaufort Sea Oceanography, September, 1986. *Can. Data Rep. Hydrogr. Ocean Sci.*: **58**, 68pp.

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